SD Times
SOFTWARE DEVELOPMENT
The Industry Newspaper for Software Development Managers

JUNE 1, 2004
ISSUE NO. 103

Jacada Hopes to Remove Confusion From Multiple Apps 5
Macrovision's FLEXnet Manager Helps Companies Control Costs ...5
IBM Releases DB2 'Stinger' Beta 6
AtStake's Analyzer Examines Code in Context For Vulnerabilities 8
Firstlogic's IQ8 Uses SOAP To Cleanse App Data 10
Infravio Unveils Enterprise Web Services Registry 11
Sun to Showcase J2EE 1.5 at JavaOne 12
Tiger to Be Unleashed At Apple Event 12
StrikeIron's Hot For Web Services 13
IBM zAAPs zSeries With Java 14
Diamelle's Framework Builds J2EE Apps 15
Black Duck's Product Gets New Billing 16
IBM Tightens COBOL, Java Ties 23
Microsoft on Devices: It's All About Web Services ...25

COLUMNISTS

BINSTOCK:
Spam Threatens The Way We Work 35
O'BRIEN:
Microsoft Doesn't Hold All the Cards 37
HOLUB:
When Hiring, Smarts Beat Skill Lists 37
RUBINSTEIN:
Quid Pro Quovadx 38

A BZ Media PUBLICATION $7.95
www.sdtimes.com

PUZZLING PLETHORA OF PROFFERED PROTOCOLS

Array of vendor-driven Web services specs are anything but standard

BY YVONNE L. LEE

Two more specifications for dealing with Web services are advancing onto the scene, leaving developers buried under an avalanche of competing specifications and uncertain as to which the industry ultimately will rally around.

BEA might be crying wolf on specifications, says Ovum's Rotibi.

The Organization for the Advancement of Structured Information Standards (OASIS) consortium in late April finalized its WS-Security specification, while the World Wide Web Consortium (W3C) followed on its heels with its announcement of a working draft for the Web Services Choreography Description language.

"A lot of [developers] want a cohesive vision," said Ron Schmelzer, senior analyst with ZapThink LLC. "They want to know that the specs that are coming out are going to be

▸ continued on page 18

Eclipse Names Oracle Exec As Its Director

BY JENNIFER DEJONG

The Eclipse board of directors was expected this week to name Oracle Corp. vice president Michael Milinkovich as executive director of the Eclipse Foundation.

The appointment, which is set to become effective June 8, would deliver on an earlier promise that the not-for-profit corporation, established in February, would not be run by an employee of IBM Corp. nor any other member of the Eclipse Foundation.

"I am excited to have this incredible opportunity," said Milinkovich. As vice president of technical services for Oracle's application server group, he followed Eclipse developments, but he was not directly involved in the open-source consortium.

Milinkovich said he sees his role as both administrative and visionary. "There is a need for both," he said. The vision for Eclipse—to be the leading software development environment across platforms and languages—is already firmly established, he noted, adding that he does not expect to get involved on the coding level.

Milinkovich said his first priority is to staff the organization. He has not yet determined how many employees he will hire or what percentage of the foundation's budget—between US$1.2 million and $1.5 million derived from membership dues—will be allocated to salaries.

Based in Ottawa, Milinkovich said he does not expect his staff to join him there. "The goal is not to have a single site with a large group of people," he said. "Eclipse will be a distributed organization."

Asked whether IBM, which contributes more developers to Eclipse than any other member, will have more influence than others on how the open-source consortium emerges, Milinkovich said it will not. "IBM has shown a lot of leadership in letting Eclipse go and starting its existence as an independent foundation," he said. ▮

Red Hat Desktop Linux: No Native .NET

Rival Novell reaches milestones with Mono, Evolution

Red Hat Desktop is a secure alternative to Windows, says Ferris.

BY EDWARD J. CORREIA

In the bout between heavyweight Linux distributors over corporate desktop Linux, the tale of the tape is sure to include how each supports non-Linux applications.

Red Hat Inc. in May revealed Red Hat Desktop, an edition of its enterprise Linux positioned as a secure and manageable alternative to Windows, armed for Windows migration with a Citrix remote execution client and compatibility with VMware.

Meanwhile, Novell Inc. in May released the first beta of Mono, its open-source implementation of Microsoft's .NET development framework, claiming its runtime now supports ADO.NET and ASP.NET apps natively, with general availability still on track for June 30. The company also released to open-source its Connector for Exchange, and announced plans to incorporate the technology for linking Linux desktops to Exchange servers into the next version of its Evolution open-source groupware, due this fall.

"We're providing an open choice for a desktop and alternative to the dominant platform today," said Mike Ferris, product marketing manager for Red Hat's enterprise and desktop Linux. Ferris said the company's security strategy involves extending so-called security enhanced (SE) features of its enterprise Linux into desktop

▸ continued on page 17

EASIER USE IS THE GOAL OF J2EE 1.5

BY YVONNE L. LEE

Ease of development will be the hallmark of J2EE 1.5, which Sun Microsystems Inc. will introduce at the JavaOne conference later this month, say members of the expert group that is helping to build it.

The first stage of work on JSR 244, or J2EE 1.5, began on May 10, with the executive committee for J2SE and J2EE

▸ continued on page 23

SPECIAL REPORT

Enterprise Databases: Mission-Critical Commodities

When selecting a database, developers often choose price over performance 27

© 2004 Microsoft Corporation. All rights reserved. Microsoft, the MS logo, Visual Studio, the Visual Studio logo, and "Your potential. Our passion." are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. The names of actual companies and products mentioned herein may be the trademarks of their respective owners.

Microsoft

Your potential. Our passion.™

Expand that thought.

Visual Studio .NET 2003 can cut development time by two-thirds, giving you more time to think.

Got a big idea? Visual Studio® .NET 2003 delivers higher productivity, helping you turn that big idea into reality faster than you ever thought possible. Want proof? Visual Studio .NET enabled Xerox Global Services to bring the v2.0 release of its CentreWare Web software to market in one-third the time compared to their previous development platform. To find out how Visual Studio .NET 2003 can help you quickly turn your big ideas into reality, visit msdn.microsoft.com/visual/think

Microsoft®
Visual Studio®

The most alien thing the Mars Rover team faced was applications integration.

Borland® JBuilder.® NASA used Borland solutions to quickly develop the Collaborative Information Portal (CIP) for the Mars Exploration Rover Mission. "Increasing developer productivity was critical," says Ronald Mak, senior scientist at NASA. "The Borland solution delivered the interoperability that NASA needed, enabling us to deliver integral functionality within a very tight schedule." Have a mission-critical goal? Borland can help you reach it.

For EJB,™ Web, XML, mobile, and database applications • Two-way visual designers • Rapid deployment to J2EE™ application servers including BEA® WebLogic,® IBM® WebSphere,® Sun ONE,® Oracle9i,™ and the integrated Borland® Enterprise Server • Innovative Struts and Web Services designers • UML™ code visualization, refactoring, and enterprise unit testing • Support for version control systems • Integrated Borland® Optimizeit™ Suite performance tools • OpenTools API

go.borland.com/mars1

Made in Borland® Copyright © 2004 Borland Software Corporation. All rights reserved. Java and all Java-based marks are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries. All Borland brand and product names are trademarks or registered trademarks of Borland Software Corporation in the United States and other countries. • 21763.2

Borland®
Excellence Endures™

Jacada Hopes to Remove Confusion From Multiple Apps

Fusion draws from mainframe, Windows server and Web to create composite

BY DAVID RUBINSTEIN

Isn't it annoying when you try to book a rental car, and the agent asks you for your name, address and credit-card number, and five minutes later asks for exactly the same information? When you ask why, the agent often responds, "The computer didn't take it the first time."

What's really happening, of course, is that you've reached someone who is juggling a number of different applications to complete the transaction, and he has to input the same information for each of the apps.

To help businesses speed up their transaction process by bringing multiple applications into a single, simplified interface, Jacada Ltd. on May 18 launched Fusion, which enables developers to create a composite application from apps sitting on mainframes, Windows servers or the Web, according to David Holmes, Jacada's executive vice president.

Jacada aims to simplify tasks that require multiple applications by providing a single interface.

Fusion consists of Jacada's extant Integrator tool for accessing mainframe or AS/400 environments, its renamed WebFuse Web integration product and new WinFuse tool for exposing Windows applications as Web services. "Fusion is for building composite applications in a [service-oriented architecture]," Holmes said.

WinFuse gives users the ability to fire up a PowerBuilder or Visual Basic application and navigate through it, while the tool provides an understanding of how the application is built and associates objects with screens. It gathers the information at the message layer, Holmes added, noting that it's not a pixel-based tool but actually "gets below the glass." WinFuse creates a repository of the application screens that users can build these composite applications from.

"Skeptics say you can just rewrite the app, or that there have to be APIs" to access them programmatically, Holmes said. "But the inventory of Windows client/server applications must support portal initiatives, or composite application development or self-service applications," which they do not do now, he added. "This is more agile than hard-coding APIs."

Holmes said Dynamic Markets Ltd. did a study this year that indicates 66 percent of call-center agents use three or more applications at the same time to complete a task, while 27 percent use five or more. "The problem is huge," he said.

Users can either designate one of the existing applications as the "driving" app and connect the others to it with Fusion, or if none of the applications supports the business process, a new composite application with a new interface can be created, Holmes said.

The Fusion product still is evolving; Holmes said the company has yet to decide "how much of the stack we want to own," referring to rules engines, transformation logic and GUI generators.

Holmes said analysts are calling Jacada's offering "agile CRM," but he said it doesn't feel comfortable for the company, which has been in middleware and tools. "We like to think of it," Holmes said, "as the perfect integration at the desktop." ▮

There's No Taking License With Software

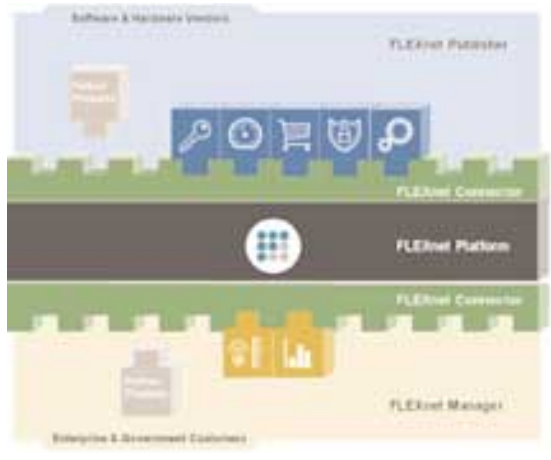
Addition to Macrovision FLEXnet platform helps companies manage usage, costs

BY DAVID RUBINSTEIN

Macrovision Corp., which traditionally seeks to help software vendors boost their revenue streams, is launching a new product to help software consumers manage their costs. FLEXnet Manager, announced on May 24, is an application designed to help software customers control their spending and maximize developer productivity.

"Companies need to get smarter about how they're purchasing and using software," said Daniel Greenberg, Macrovision's vice president of marketing, citing a 2001 study by research firm AMR that found that fewer than 50 percent of all licenses for CRM applications are even being used. "One of the challenges is to reduce the amount of shelfware," he said. "You can't do that without really understanding what licenses you have and how they are being used."

One side of the problem is the overlicensing of software. Greenberg gave the example of a company that buys six software licenses for a group of six workers, and then acquires six more licenses for a second group of six workers after the first group is done, and repeats that a third time. Suddenly, the company has 18 licenses for the same or similar software when no more than six people were using it at any given time, resulting in what Greenberg categorized as a 200 percent overlicensing of software.



Companies can use FLEXnet to track software use.

The flip side of the coin is the loss of productivity that occurs when project workers are idled because the licenses for a particular product are being used by other workers. "We want to remove barriers to access, to not have people waiting for software licenses to be freed," he said.

Yet Greenberg said Macrovision found that two-thirds of all enterprises don't even track software usage. The company's new offering gives enterprises visibility into software usage patterns within the company, by user or product, or even down the feature level within products. Pricing is based on the number of users on the administration module and the number of vendors whose software is being monitored, but begins at around US$20,000, Greenberg said.

FLEXnet Manager is a Web-based application that plugs into the FLEXnet licensing environment, with a user interface that is created from HTML. It allows users to look at all of a company's licenses, vendors and how the software is distributed, explained product manager Jim Griffin. A built-in reporting module analyzes usage. "From a single console, you can see the opportunities to share, and you can set it up to alert whoever is monitoring usage if licenses for a critical project are nearing a threshold," he said.

Two keys to maximizing ROI on software are the pooling of licenses, and usage-based purchasing, said Griffin. Citing retailing, he said that when companies decentralized their warehouses into more regional operations, they found they needed to acquire even more inventory to ensure they had enough of each product to satisfy their customers. The results often were that each warehouse was overstocked in certain products that sell better in other regions, and understocked in items that sold more in their region.

By having development teams, for example, pool their licenses, companies can actually acquire fewer total licenses, yet have more of them available during critical periods of the development process when more workers are required to get the task done, Griffin said. ▮

News Briefs

NEW PRODUCTS

The Swiss company Dtrt AG has released a new toolbar component for .NET. The US$31.30 **Drt.NavBar.Win** control lets end users navigate around a data collection using developer-defined buttons . . . XAware Inc. has released a set of XML-based text integration hubs for several vertical markets, including EDI, health care, financial services and government transactions. The **XA-Xchange Hubs**, which run on J2EE-based application servers, include a schema designer, a server, predefined format definitions and consulting services; the average deployment price is US$75,000 . . . Stellent Inc. has released **Content Portlet Suite**, a set of tools for building JSR 168-compliant content applications for any compatible portal server. The US$5,000-per-server Content Portlet Suite provides access to the company's Universal Content Management services, including check-in, workflow and search. JSR 168 defines a set of APIs for interoperability between portals and portlets . . . McObject LLC is in the final beta testing stage of **ExtremeWS**, an embedded HTTP server for network-attached devices. The server, which requires less than 30KB of memory, is integrated with the company's ExtremeDB embedded database. The Web server works with compiled static HTML content that is turned into C source code and linked with the server itself . . . **Style Report Analytic Edition 6.0** is a new J2EE-based report generator from InetSoft Technology Corp. that extends the company's existing Style Report Enterprise Edition with OLAP functions and ad hoc reporting to the product's built-in data analysis features . . . MKS Inc. has made available the first beta of a 64-bit version of **MKS Toolkit for Enterprise Developers**, a set of Unix-style utilities for 64-bit Windows XP or Windows Server 2003. This version of MKS Toolkit is designed to run on the AMD Opteron processor. The beta can be downloaded now; general availability is scheduled within two weeks of the release of Microsoft's 64-bit operating systems . . . StarNet Communications Corp. has released what the company calls the first PC X server for 64-bit Windows running on the AMD Opteron processor. **X-Win64**, which costs US$325 per seat, runs on 64-bit Windows XP and Windows Server 2003 . . . Microsoft Corp. has opened up the beta program for **Live Communications Server 2005**, an instant messaging server previously code-named Vienna. General availability is set for Q4 2004 . . . Blueberry Consultants Ltd.'s **BB TestAssistant** is a screen recording program for Windows, designed to capture end-user screen activity so that it can be reviewed by testers, the help desk or developers. The application can capture keystrokes, mouse movements and Windows application errors, and costs US$149.

UPGRADES

Telelogic AB has released version 7.1 of its **Doors** requirements management tool, which now gives developers the ability to create links from requirements to tests, and to compare two requirements documents using an automatic feature that puts a red line under the differences. New tables allow users to see multiple properties of each requirement within a single table cell. The tool now also can run on Windows Server 2003 and within Office 2003 . . . Version 7.0 of the **Content Integration Suite** from Stellent Inc. allows developers to embed the content server into J2EE applications using the Java Connector Architecture and Java Message Service. The software costs US$30,000 per server . . . WRQ Inc. has updated its **Reflection** family of host access servers for Windows, Web sites and PC X-server environments. The updates include terminal emulation for VT500, Televideo 955 and VT-UTF8, SSL-based file transfers, secure communication with Kerberos using TCP, and support for TAPI 3.0. The new versions of Reflection also work with Tandem midrange servers . . . Version 5.0 of **WebCharts3D**, an interactive server-side graphing component for Java and Swing, now includes a chart designer with an integrated graphing server. In addition, it can generate XML DTDs and XSD schemas, and includes a schema for Swing programmers. It can also generate animated Flash images. The software, produced

▸ continued on page 23

IBM Releases DB2 'Stinger' Beta

Support for longer SQL statements, type 4 JDBC drivers, .NET and Eclipse among developer features

BY JENNIFER DEJONG

Promising the production version later this year, IBM Corp. last month made available the beta version of its DB2 Universal Database, code-named Stinger, which will replace version 8.1.

Many of its 200 new features aim to ease database administration and boost performance, but Stinger also offers productivity enhancements for developers, said IBM's director of strategy for DB2 information management software, Jeff Jones.

Features of interest to developers include support for SQL statements as large as 2MB and a type 4 JDBC driver, native support for SQL procedure language, increased flexibility in using call statements, and a new GUI that replaces the command line interface for altering tables at design time, he said.

Developers don't code SQL statements that are 2 million characters long, but applications such as SAP routinely generate them, said Jones. When developers bumped against the previous 64KB limit, they had to rewrite long SQL statements as a series of shorter ones. That task was not trivial, Jones noted. "You couldn't just truncate them."

Also boosting developer productivity is the type 4 JDBC driver, which enables Java applications to access the database more easily. Because this version of the driver is pure Java, there is no need to boil it down to C code, said Jones. "You skip the compile step."

Breaking long SQL statements into shorter ones wasn't trivial, says IBM's Jones.

In the same vein, previous versions of DB2 required developers to compile SQL procedure language to C. But Stinger provides native support for the SQL procedure language, eliminating the need to do that, said Jones.

Stinger allows developers to embed call statements in places that previously couldn't be used. "For instance, you can issue a call statement from within a table function," said Jones. The ability to do that encourages code reuse. "If you have written it once, you can call it again," he said.

Because Stinger includes a new GUI, developers can more easily rename columns at design time, said Jones.

By representing the Earth as a globe instead of a flat map, a Stinger feature called Geodetic Extender lets developers building geospatial applications do so more easily.

IBM plans to release the new version of DB2 some time in the next three to six months, replacing the earlier version, delivered in November 2002. A spokesperson said the company has not yet decided on a new version number. The beta software is available at www6.software.ibm.com/reg/dm/dm-adtpapp-i.

In February, the company announced plug-ins that make DB2 available within the Eclipse framework. In October 2003, IBM previewed Stinger's ability to integrate with the Microsoft .NET Framework and with IBM's Rational XDE Developer visual data modeler.

Jones said the goal is not to move Microsoft programmers to IBM development environments, but to get them to use DB2 with languages such as Visual Basic .NET and C#. "Developers are loyal to their platform." ▮

JBridge.NET Spans Microsoft, Java

BY JENNIFER DEJONG

Adding a new entrant to the Java-to-.NET interoperability market, JBridge.NET recently announced a toolkit and runtime program.

The product, called JBridge .NET, joins .NET and Java runtime programs into a single runtime program capable of running both .NET and Java code, said Tim Altonji, chief marketing officer at the Hunterdon, N.J., company.

JBridge.NET works by analyzing Java code and automatically generating equivalent code in .NET. Although the newly created .NET code can make callbacks to Java, JBridge.NET cannot generate Java code from .NET. Altonji said future versions are likely to do so.

JBridge.NET differs from competitors' offerings, such as JNBridgePro, from JNBridge LLC, in Boulder, Colo.; and Ja.NET, from Intrinsyc Software International Inc., in Vancouver, British Columbia, in that it accesses programming objects in each runtime directly and does not provide the network technology necessary to connect the two applications. "It's a least common denominator approach to integration," said Altonji. He said that because networking technologies such as .NET Remoting and Java RMI are widely available, the company saw no reason to include them.

The program, which costs US$299 for five developers, is available at www.ejbridge.net.

JBridge.NET can be used to build virtually any kind of interoperability between .NET and Java, said Altonji. Common scenarios include embedding a Java JFrame inside a .NET form, writing and running an EJB in .NET, and hosting .NET objects inside a J2EE application server. ▮

For the leaders in your company, fast access to accurate and relevant data can be the difference between a validated and a gut-level business decision. With Embarcadero's Model-driven Data Integration solution, you can reliably integrate large volumes of data in a matter of weeks, not months. To learn more, visit us at www.embarcadero.com/mddi.

EMBARCADERO IS MODEL-DRIVEN DATA INTEGRATION.

©2004 Embarcadero Technologies Inc. All rights reserved.

EMBARCADERO TECHNOLOGIES.
we make data work™

Executing on a Security Testing Plan

AtStake offers analyzer that examines code in context to find potential vulnerabilities

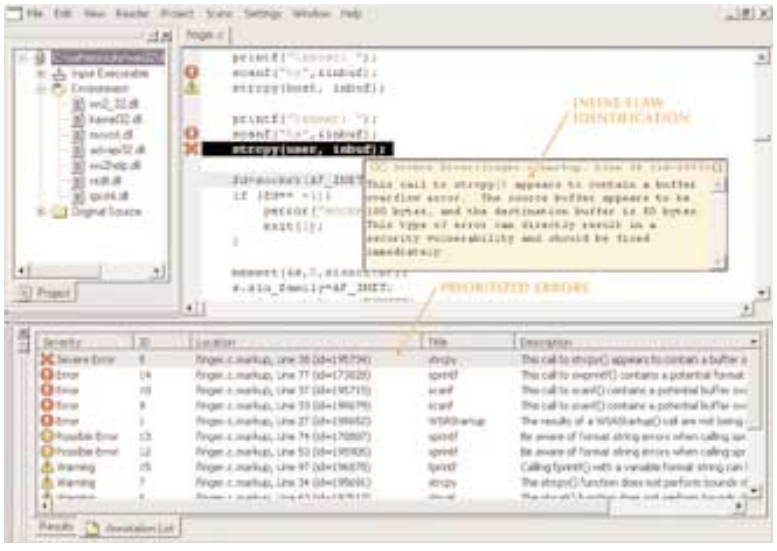
BY DAVID RUBINSTEIN

Saying that security vulnerability testing is only as good as the expertise of the tester, security consulting firm AtStake Inc. introduced at Microsoft's TechEd conference last month a static analysis tool that automates the examination of executables, dynamic link libraries and source code.

"To evaluate whether or not there are vulnerabilities, you need to look at source code in the environment in which it was designed to run," said Mike Pittenger, general manager of products.

Using the company's SmartRisk Analyzer, a developer would input a debuggable executable file and the source code of the application into the tool, which automatically makes sure all calls can be dynamically linked, according to Chris Wysopal, AtStake's vice president of research and development. From there, he explained, the analyzer determines function entry points and returns, and creates a model of the program.

The analyzer does a security analysis on the model, scanning against a knowledge base of more than 400 potential vulnerabilities and ranking the results for developers based on severity. Finally, a detailed report is generated, in which the specific line of code where the vulnerability occurs is highlighted. "We try to get as much as we can from the static analysis," Wysopal said. "Building richness into the model is as important as creating new [security] scans. We are looking for the triggers that can cause these problems."



AtStake's analyzer can find errors down to the line of code and rank their severity.

Pittenger called SmartRisk Analyzer a third-generation analysis tool. First, he said, was manual code review, which was slow, tedious and expensive. "It is as good as the attention span and the expertise of the reviewer, and usually is done once, right before deployment," he said, calling the approach ineffective. Then came dynamic analysis, which resulted in white-box or black-box testing but still relied on the tester's knowledge and understanding of the application and its environment. "The keyword search for function calls was a big improvement over text string searches, which returned so many false positives," Pittenger said.

SmartRisk Analyzer does a complete discovery of data flow within an application and tests that against the knowledge base. "There are classes of vulnerabilities we can scan for, such as SQL injection attacks, buffer overflows, poor crypto library usage and format string attacks," Wysopal explained. "We do complete analysis in all directions, and try to identify the triggers that can cause problems." The problem is magnified when developers use third-party DLLs, he said. "People are just gluing them together to create applications with no idea of the risk."

SmartRisk Analyzer, which Wysopal said would cost an average work group around US$40,000, can emulate Win32, *x*86 and Solaris on SPARC environments, he said. The company is working on the ability to analyze Java and C# bytecode, he added.

The company was founded at the end of 1999 as a security consulting firm, Pittenger said, and decided over the past several years to commercialize the tools. SmartRisk Analyzer is the first to come to market. ■

When you have an Imaging project that needs to be done fast, use the high performance Imaging Toolkit from AccuSoft - **ImageGear**.

ImageGear is a comprehensive set of imaging tools that provide professional software developers and OEMs with the features needed to create the most reliable and powerful imaging applications.

With high quality customer support, dedicated account managers, industry leading partnerships, and the **only** image guarantee in the industry, **AccuSoft** and **ImageGear** are there to help your project stay on-track, and on the rails.

AccuSoft
71 Lyman Street, Northborough, MA 01532
www.accusoft.com - sales@accusoft.com
1 (800) 525-3577

Before spending [choose all that apply: tons, boatloads] of money

on [choose all that apply: business intelligence, price optimization, competitive intelligence, revenue management, CRM, business process management, business activity monitoring] solutions,

make sure you can [choose all that apply: aggregate, integrate]

data from [choose all that apply: inside firewall, outside firewall] with ease.

Choose one. [QL2 Software]

QL2 software

QL2 Software provides tools and solutions for collecting and integrating data from all sources, no matter location or format. Logon to www.QL2.com for free product downloads or a free proof of concept.

WWW.QL2.COM or call 800-750-8830 or +1-206-443-6836

Seapine Software™
changing the world of software development

Developers love creating code... Managers crave process control... Bridge the gap with Seapine CM.

Software development is a team effort with developers, testers, and management all working toward one goal – delivering the highest quality product on time.

Built on award-winning TestTrack Pro and Surround SCM, Seapine CM brings structure to source control and issue management, improving communication while accelerating product development.

Seapine CM helps your team...

Define custom change request workflows, putting you in control of who makes changes and who authorizes the closure of issues.

Associate source code changes with defects or change requests.

Gain a thorough understanding of how much work remains before project completion.

View complete audit trails of what changed, why, and by whom.

Understand how close you are to release—how many issues are open, how quickly are you closing them, how many are re-opened?

Successful team-based development requires the proper process supported by the right development tools. Tools that are flexible, easy to use, secure, and scalable–like Seapine CM.

Features:

Complete source code control with private workspaces, automatic merging, role-based security and more.

Comprehensive defect management—track change requests, bug reports, feature requests and more.

Fast and secure remote access to your source files and defects—work from anywhere.

IDE integration with JBuilder, Visual Studio, Eclipse, and other leading development tools.

Advanced branching, triggers, email notifications, fully configurable workflows, and customizable fields put you in complete control of your process.

Open interfaces—triggers, email notifications, SOAP support, XML data exchange, and ODBC clients.

Scalable and reliable cross-platform, client/server solution supports Windows, Linux,

Achieve major improvements in software development performance through better tool integration and process automation. Manage defects, development issues, and change requests with award-winning TestTrack Pro and gain complete control over your source code and change process with Surround SCM. Seapine's integrated change management tools are feature rich, highly scalable, Web enabled, and cross platform. Streamline your development process with Seapine CM and help your team deliver quality software products on time, every time.

Learn more about the Seapine CM suite at
www.seapine.com
or call 1-888-683-6456

Surround SCM Source Control
TestTrack Pro Defect Management
QA Wizard Automated Testing

© 2004 Seapine Software, Inc. All rights reserved. Surround SCM, TestTrack Pro, and QA Wizard are either registered trademarks or trademarks of Seapine Software, Inc.

Firstlogic's IQ8 Uses SOAP to Cleanse App Data

Web services to act as universal bridge, making data from all applications consistent

BY EDWARD J. CORREIA

It surely must have been tempting to slide SOAP into the name of a data cleansing tool that works through Web services. But data quality tools vendor Firstlogic Inc. resisted the urge in mid-May when it announced IQ8 Integration Studio, its next-generation data cleansing suite that it claims lets developers create, deploy and manage rules that govern the cleanup and maintenance of consistent data across an enterprise. The tools are set for general release on June 30.

According to Dave Dobson, Firstlogic's director of technology, the software parses free-form data flowing as a SOAP payload and identifies addresses, names, account numbers and other fields that are susceptible to duplication or error and runs it through correction and standardization algorithms. "We can also generate alternate versions of names and run them through matching rules and similarity algorithms," he said, adding that this helps in identifying duplicate database records.

Vice president of development Joe Zurawski said that many prospects are skeptical about the need to cleanse their data, thinking that their data is already of the highest quality. "[But we] always find invalid, incomplete or null fields where you thought you had data. And typically, at least 30 percent of customer records are duplicates" or store the same person with different spellings, he said.

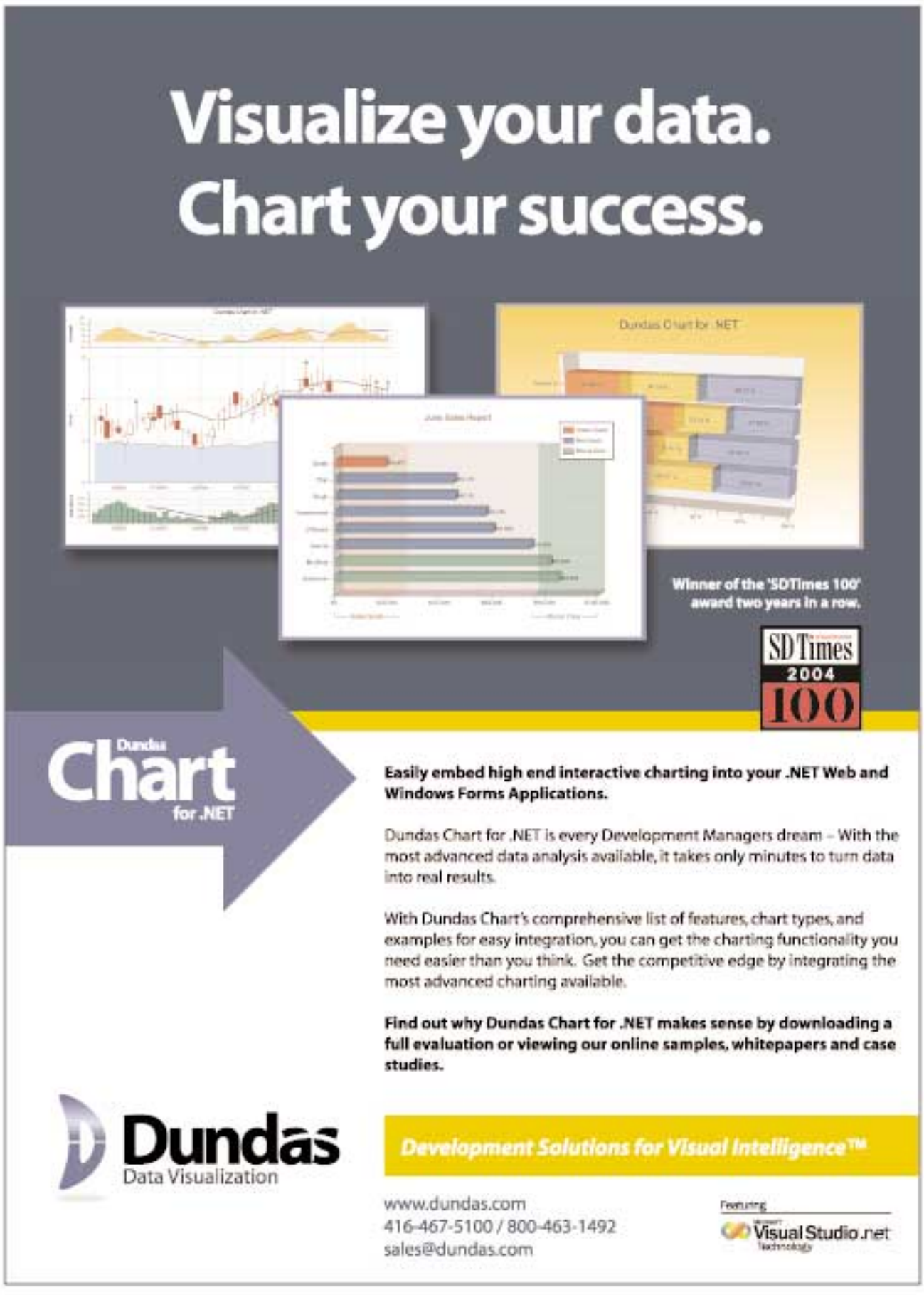
"Data is fluid, and data snapshots degrade over time," asserted Chris Colbert, industry marketing director at Firstlogic. "People get married, customers move and change their addresses. Data quality is not a one-time thing; it's never-ending."

100 GRAND BARS ERRORS

With a starting price of US$100,000, the software does far more than even a roomful of temps scanning piles of green-bar printouts, Colbert said. "People who take the manual approach miss a lot of the relationships in their data; there's more than just the cleansing aspect. It's very difficult for a person to look at 20 million records and determine what's a match and not a match."

IQ8 Integration Suite consists of four modules: a repository for storing configuration rules and metadata; the Data Quality Server, which processes batch projects and transactional data passed through SOAP; the Project Architect graphical environment for creating dataflows and defining rules; and the IQ8 Web Service, the mechanism that enables communications to and from applications.

Now in beta, IQ8 Integration Suite, which requires a minimum of two processors, will be available for Web servers running on Linux, Unix and Windows servers. ▮



Infravio Unveils an Enterprise Web Services Registry

The public UDDI registry has not lived up to its promise, says company

BY JENNIFER DEJONG

Claiming that UDDI has failed to do what it was written to do, Infravio Inc. in mid-May added a corporate Web services registry, X-Registry, to its management suite.

"UDDI is woefully lacking," said Infravio president and CEO Jeff Tonkel, referring to Universal Description, Discovery and Integration, a public directory that allows developers to register the Web services they write so others can find them and reuse them. In the real world, companies demand more control over their Web services for such things as usage and fees than UDDI provides, he said.

X-Registry, the newest addition to the Infravio Ensemble Web Services Management Suite, allows a company to create an enterprise directory of its Web services in order to promote reuse. "Developers are creating hundreds of Web services," said Tonkel. But they have no useful way to discover them, he added.

Although some developers list their Web services on UDDI, the public directory fails to provide pertinent information about each offering, Tonkel said. By contrast, X-Registry provides technical details about a Web service, such as sample source code for the client.

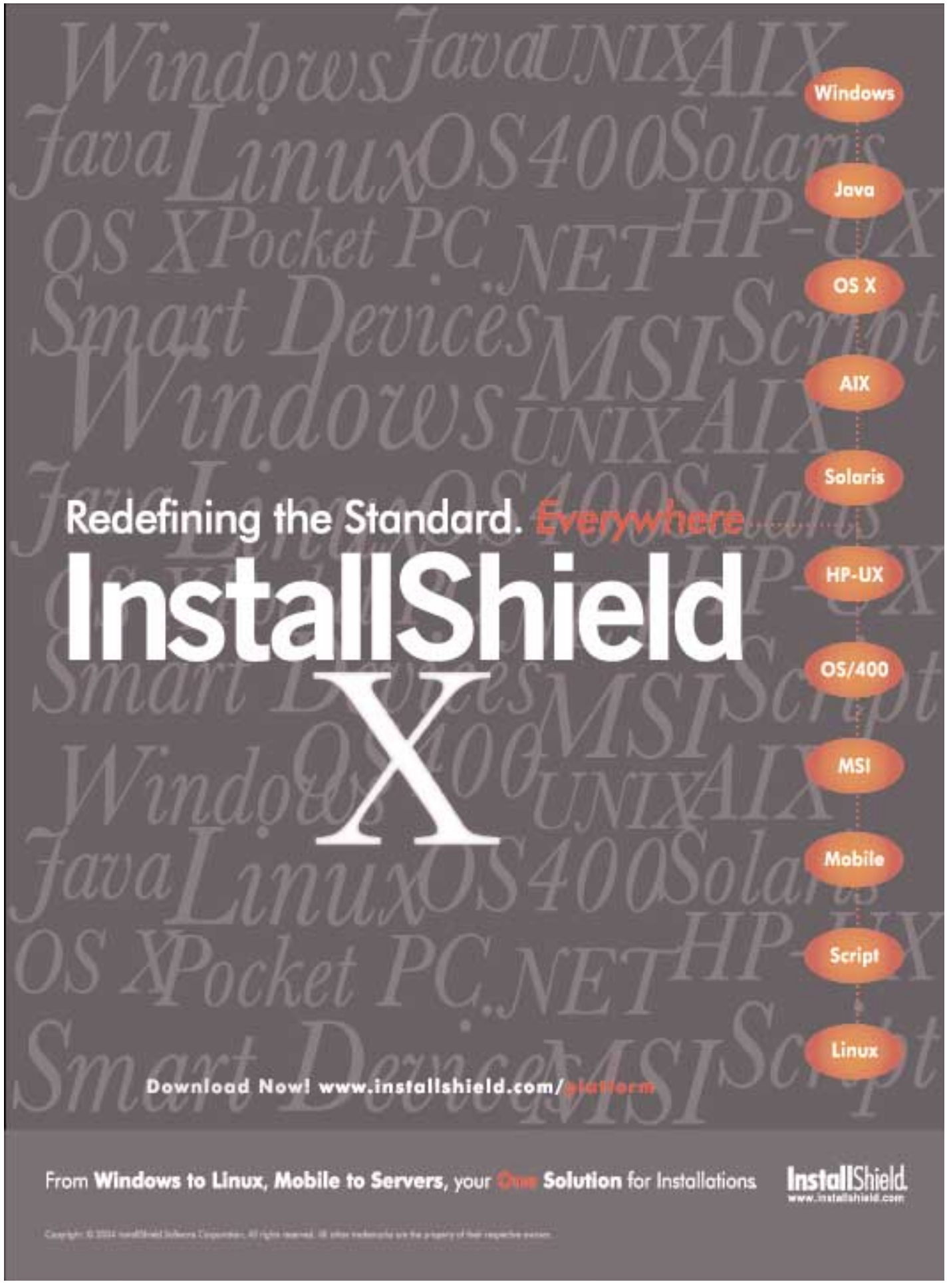
In addition, it uses business terms to describe its offerings. For instance, an airline might name a Web service for buying a ticket. "Web services listed on UDDI typically have gobbledygook names," said Tonkel.

More important, because X-Registry works with X-Broker, a companion component in the Ensemble Web Services Management Suite, it gives companies control over the security of its Web services.

X-Broker acts as an intermediary, authorizing the consuming application to use the Web service. It allows companies to implement quality-of-service agreements, where the provider specifies availability of the Web service and guarantees it will work properly. It also handles billing. For instance, a provider might charge a consumer 3 cents each time the Web service is used.

The ability to charge fees is critical to X-Registry users, who may choose to make their Web service directories available to partners, noted Tonkel. "A business partner can come in, shop the registry, make a request to use a service, and wait for authorization from the provider," he said.

Pricing for X-Registry starts at US$35,000 for five users. "It should be easy to find Web services and reuse them," said Tonkel. "Theoretically, that is part of the promise of Web standards." ■



Sun to Showcase J2EE 1.5 at JavaOne

BY YVONNE L. LEE

Sun Microsystems Inc. will unveil details of J2EE 1.5 at the 2004 JavaOne conference in San Francisco at the end of this month.

J2EE 1.5 is the server version of Java, which is designed by Sun's Java Community Process. The new version, set for release in June 2005, will focus on ease of development by using features from the base Java, J2SE 1.5, which was released earlier this year.

For the first time, this year's conference will be held concurrently with Apple Computer Inc.'s Worldwide Developers Conference (WWDC).

"This was a joint Apple-Sun decision. It was very purposeful," said Mike Bellissimo, senior director of Sun's software developer outreach.

The JavaOne conference will take place June 28 through July 1 in Moscone Center's North and South Halls, while the WWDC will run from June 28 through July 2 in Moscone West.

Attendees of either event will have the opportunity to attend sessions at both, Bellissimo said. Apple engineers will give presentations at JavaOne and Sun engineers will give presentations at the WWDC, he said. Pricing for the cross-attendance was still being set at press time, he added.

However, Apple spokesman Stefan Offermann would neither confirm nor deny details of the company's participation in JavaOne, or any relationship between the two events.

This year's show, which will have the theme "Java Everywhere in Action," will demonstrate applications on servers, desktops, handheld devices, set-top boxes and other platforms, Bellissimo said.

"We're going to focus on one Java," said Bellissimo. He said that the company intends to emphasize that J2EE, J2SE and J2ME share a single platform despite being intended for servers, desktops and mobile devices, respectively. This message, he said, was intended to communicate to developers that Java presented a better consumer experience than Microsoft's .NET. He added that Sun was trying to get a Microsoft representative to expound on the companies' new relationship during a "fireside chat" at the conference.

JavaOne

CONFERENCE:
June 28–July 1
Moscone Center, North and South Halls, San Francisco

PAVILION EXHIBITS:
Monday, 11 a.m.–8 p.m.
Tuesday, Wednesday, 11 a.m.–7 p.m.

java.sun.com/javaone

"We're going back to the future in that our platinum partners also will present during the sessions," Bellissimo said, acknowledging the complaints last year from third-party companies that JavaOne had become a platform for Sun and that other companies had no voice.

The show is on pace to match its goal of 15,000 attendees, Bellissimo said. "Paid registration is way ahead of last year."

In addition to the keynotes and conference sessions, JavaOne will host four coding contests. "Our intent is to try to provide a high level of interactivity with developers," Bellissimo explained. "They like to show off their stuff. It's really to make it a more fun learning event and less of a trade show." ■

Tiger to Be Unleashed at Apple Event

BY YVONNE L. LEE

Apple Computer Inc. CEO Steve Jobs will let the company's latest cat out of the bag when he offers the details of Tiger—Mac OS X version 10.4—in his Worldwide Developers Conference keynote June 28 at San Francisco's Moscone Convention Center.

Apple has for several years used the conference to unveil and expound on impending features of its cat-themed Unix-based operating system, and this year will be no different.

Code names for versions 10.0-10.3 of Mac OS X have been Cheetah, Puma, Jaguar and Panther, respectively.

Ron Okomoto, vice president of Apple Worldwide Developer Relations, declined to discuss the specifics of Tiger, or even reveal its due date.

Much of the conference is geared toward Linux and Java programmers who are developing for the Mac but are new to the platform, Okomoto said. "Almost half the people who came to our conference last

▸ continued on page 18

WWDC2004

CONFERENCE: June 28-July 2
Moscone Center West, San Francisco

KEYNOTE:
Monday, 10 a.m., Steve Jobs

CONFERENCE SESSIONS:
Monday, 2 p.m.–6:30 p.m.
Tuesday, Wednesday, Friday, 9 a.m.–Noon, 2 p.m.–6:30 p.m.
Thursday, 9 a.m.–Noon, 2 p.m.–5 p.m.

developer.apple.com/wwdc

End-users and ISV's rely on WorkPoint™ for BPM

Whether you're a leading IT solutions provider looking to embed a workflow engine, or a medium sized business needing to automate internal business processes, look to WorkPoint for a flexible BPM solution.

PinkRoccade and South & Associates turned to WorkPoint by Insession Technologies for a flexible BPM product that fit their unique requirements.

A leader in the Netherlands outsourcing market, PinkRoccade required a BPM/workflow solution with an open architecture to be able to support their diverse client base.

South & Associates, P.C. law firm services over 150 clients and thousands of foreclosures each year, amidst tight government regulations. WorkPoint offered the flexibility and architecture their complicated internal business processes demanded.

Whether you need an in-house BPM/workflow solution, or need to embed that functionality for your customers, depend on WorkPoint to meet your complex needs.

Read the full story at www.insession.com/bpm or contact lej@insession.com for more information.

Insession technologies

A Division of Transaction Systems Architects
Offices Worldwide • www.insession.com • 800.755.1596

Our technical expectations were met in WorkPoint...We are very pleased with our licensing of WorkPoint and our relationship with Insession Technologies.

Mr. Diego Baptista
Software Engineering Specialist
PinkRoccade

Insession and South formed a great team.

Mr. Perry White
Director of Information Technology
South & Associates, P.C.

WorkPoint

StrikeIron's Hot for Web Services

Creates hosted services geared toward business users

BY YVONNE L. LEE

Start-up StrikeIron Inc., which released its first product, a Web services analyzer, last October, is working on a set of hosted services to help organizations find, understand and use Web services.

The services will be known collectively as the StrikeIron Web Services Business Network. The network is designed to be a single point of entry for finding, using and subscribing to privately owned and publicly available services.

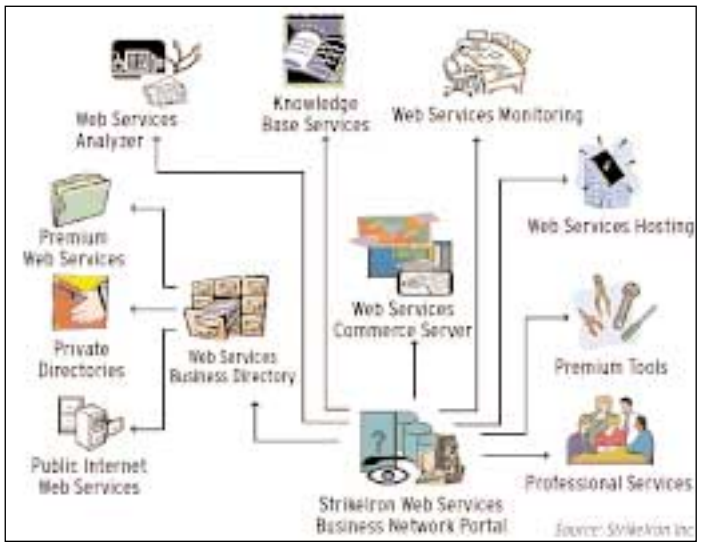
The goal, according to CEO Richard Holcomb, is to make services easier to understand and use not only for programmers and IT staff but also for "the average Excel user."

The StrikeIron Web Services Business Network brings together search capabilities of a directory of Web services, by-subscription Web services, a knowledge base explaining the parameters and how to address the services as well as what to expect from the output, commercial services for managing subscription fees and tracking use, monitoring services and the company's Web Services Analyzer tool.

StrikeIron's services compete against those from Grand Central Networks Inc. but will focus more on "basic business functionality" rather than integration services, Holcomb said. Such services would provide answers to questions that arise during regular business transactions, such as determining whether a telephone number may be called legally for telemarketing purposes and how much tax it would cost to send a product to a location.

StrikeIron's services will include a directory for finding public services, but the directory will not be based on Universal Description, Discovery and Integration (UDDI), the OASIS specification for directories of Web services.

"UDDI hasn't worked very well. People are trying to make it work, but it hasn't gotten them there," said Holcomb.



StrikeIron's Web Services Business Network acts as a single entry point to privately owned and publicly available Web services.

In addition to providing a method for finding Web services, StrikeIron offers ways to clarify how to use the services, giving designers what Holcomb referred to as a "knowledge base" that describes the function of services, as well as the input they require and the outputs they return. According to Holcomb, directory providers can even include sample data to help users format their input data. Customers can look at a graphical view of the data or can look directly at the XML, he said.

In addition to the directory services, the Web Services Business Network will include paid and free subscription services to publicly available Web services, such as the U.S. government's "Do Not Call" registry. Subscribers would be able to look up phone numbers to see whether they are available for telemarketing. Holcomb claimed this is more efficient than receiving disc or paper updates from the government and having to design an application that would use that information.

Each service will be priced individually, depending in part on the price the service's provider charges StrikeIron, Holcomb said.

StrikeIron also will sell hosted services for organizations to make their internal Web services easier to find and use. It could also function as a "trusted, reliable" third party for businesses to find available Web services from other companies, he said.

The services, in beta test at press time, are scheduled for general availability in June.

"We are bringing up two to three new services a day," Holcomb said. ▮

Does your Team do more than just track bugs?

Alexsys Team does! Alexsys Team 2 is a multi-user Team management system that provides a powerful yet easy way to manage all the members of your team and their tasks - including defect tracking. Use Team right out of the box or tailor it to your needs.

Download Your Free Trial at www.alexcorp.com

Track all your project tasks ...
- Defects
- New Product Features
- Help Desk Cases
- Action Items
- ISO 9000 Issues and more...

... in one database so you can work together ...
- Keep your project on-track with up-to-date status
- Allow team members to see their assignments and stay on top of the issues
- Find the information you want when you want it
- Run effective meetings using online agendas
- Balance project and team member workloads
- Keep a complete history of your work and more ...

...to get projects done.

Team 2 Features:
- Affordable and scalable
- Multiple work request forms to make data entry a breeze
- Automatic Escalations to stay-on-top of critical tasks
- Knowledge base for you and your customers to find answers fast
- Time recording to manage budgets and improve productivity
- Web Access to work where and when you want
- Secure web forms for customers to get help 24/7

New in Team v2.5
- Custom Groups for complete access control
- Spell checking
- Powerful list searching
- Advanced request forms with default values and field choices for each type of task
- AND MORE!

Download a free, no obligation trial version at www.alexcorp.com.
Need more help, give us a call at 1-888-880-ALEX (2539).

Alexsys TEAM 2

Team 2 works with its own standard database, while Team-SQL works with Microsoft SQL and Oracle Servers.
All versions of Team 2 work on Windows 95/98/Me and Windows NT/2000/XP. Netscape and Microsoft internet browsers.

IBM zAAPs zSeries With Java

Claims new execution environment will cut costs, draw developers to mainframe

BY JENNIFER DEJONG

IBM Corp. is betting that a new technology called zAAP will give Java developers a compelling reason to write applications on the mainframe.

Although the company has offered zSeries editions of its WebSphere product line since 1998, a widespread perception that developing applications on big boxes is not cost-effective has kept most Java developers from using them, said Les Wyman, an IBM systems architect for the zSeries. Many customers ran back-end databases on the mainframe, but they chose to offload the development process to smaller, front-end boxes, he said.

IBM claims that the zSeries Application Assist Processor, included in its eServer zSeries 890 mainframe introduced in April, will change all that. Essentially a Java execution environment designed to work with the zSeries operating system z/OS, a zAAP does not replace the zSeries' general-purpose central processors.

Instead, it operates with them asynchronously to execute Java programming under control of the IBM Java Virtual Machine (JVM), explained Wyman.

zAAPs can also be installed on the earlier z990 mainframe. But in order to take advantage of them, developers must upgrade z/OS to version 1.6. (The zSeries 890 is a smaller, less-expensive version of the IBM's zSeries 990, aimed at large enterprises.) Future versions of zSeries also will include zAAPs.

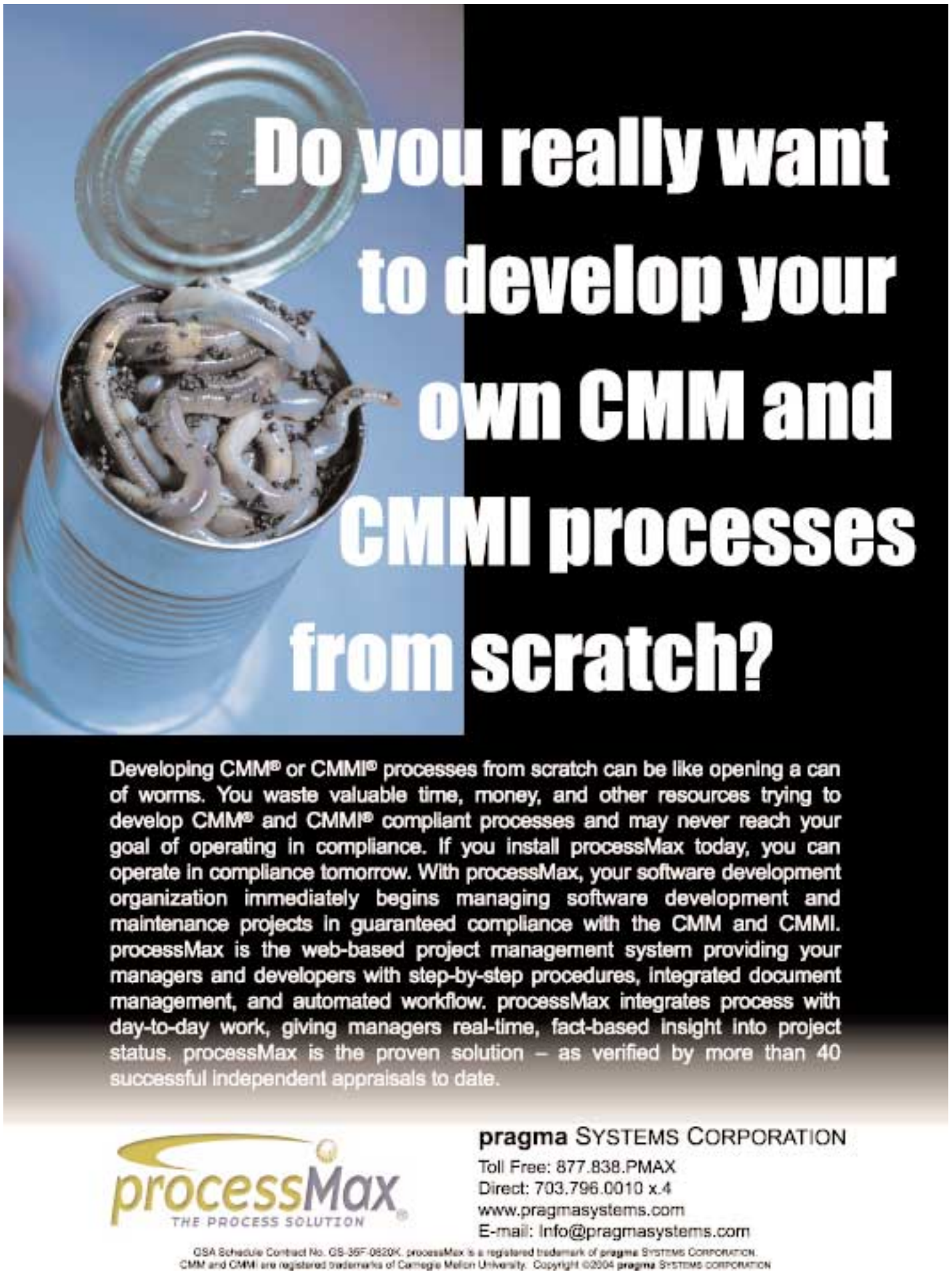
DRIVING DOWN COSTS

Offloading Java workloads to zAAPs eases the demands on general-purpose processors, resulting in lower costs, said Wyman. A zAAP costs US$125,000 compared with about $450,000 for a general-purpose processor.

General-purpose processors have IBM software charges associated with them, but zAAPs do not.

In addition, IBM claims that integrating the application and the back-end server on a single mainframe server further drives down costs. Doing so reduces the number of TCP/IP programming stacks, firewalls and physical interconnections and processing delays associated with distributing applications across multiple smaller servers, said Wyman.

Wyman added that developing and deploying Java applications on the mainframes looks and feels identical to the process of doing so on smaller servers. "Java applications are running a zAAP, but they don't know they are." ■



Diamelle's Service Oriented Framework Builds J2EE Applications

BY YVONNE L. LEE

Diamelle Technologies Inc., a company specializing in Enterprise JavaBeans, last month began shipping a framework of modular component suites built from EJBs for creating business applications.

That framework, called simply Service Oriented Framework, consists of components in the areas of e-commerce, customer relationship management, content management and identity management. These packages in turn can be used to build sales force automation, customer service, order management and catalog management applications, said CEO Arun Shah.

Diamelle also offers individual packages in each area in addition to the full US$40,000-per-processor framework suite. Shah claimed his company's framework can build between 60 percent and 80 percent of an application's code by supplying the server-side functionality of the applications.

According to CTO Suneet Shah, the rest of the coding involves building the navigation and user interface. "Somebody still has to build the actual screens for these things," he said.

He said that applications designed using the framework could be deployed on any application server that complies with J2EE 1.3 or higher.

The framework meets the Web Services Interoperability Organization's Basic Profile, he said, so that finished Web services can interact with both J2EE and .NET Web services. ■

Fuego Updates BPM Offering

BY JENNIFER DEJONG

Fuego Inc. updated its business process management suite in late April to version 5.0, enabling developers to deploy FuegoBPM applications more easily on J2EE application servers from BEA Systems Inc., IBM Corp. and JBoss Inc.

Developers want BPM software integrated with their application servers, said Rick Mattock, vice president of product strategy at the Plano, Texas, company. "Why learn another tool when I am already invested in WebLogic or WebSphere?" he said.

The previous version, FuegoBPM 4.5, replicated an application server in the product's stand-alone engine. But developers did not have access to all of the services that WebLogic, WebSphere and JBoss provide, Mattock said.

Also new to 5.0 is support for the Business Process Execution Language (BPEL) and Business Process Modeling Notation (BPMN) standards.

Pricing for FuegoBPM starts at US$75,000 per microprocessor.

Mattock noted that while BPM standards are important, they are still emerging. For instance, BPEL addresses how steps of business processes interact using Web services, but it does not take into account the human interactions involved in a process. "BPM is about how people and systems interact holistically," he said. ■

Black Duck's Product Gets New Billing

Company renames, repositions tool for intellectual property management

BY DAVID RUBINSTEIN

Black Duck Software Inc. might have appeared calm on the surface, but below, its feet have been paddling like mad, as the company has renamed and refocused its product.

Black Duck sells software that helps companies manage and mitigate risks to intellectual property. When it was announced in January at LinuxWorld, the product was called Black Duck Enterprise Edition; now it is called protexIP Suite, with a developer tool and registry, and is sold on a subscription basis.

CEO and founder Doug Levin said Black Duck's software is gaining traction in companies that desire to use open-source code; with more than 50 different open-source licenses to keep straight, Levin said companies have been wary about inadvertent or malicious code violations.

He said they "are looking for automated solutions, not lawyers with IP expertise or insurance policies to protect them."

The protexIP knowledge base now has more than 160 licenses, including 52 OSI-certified open-source licenses, 70 other noncertified open-source licenses and proprietary licenses from Java vendors, Microsoft Shared Source and Intel.

In addition, the tool provides wizards that can be used by companies to create and enforce their own rules about licensing for development teams.

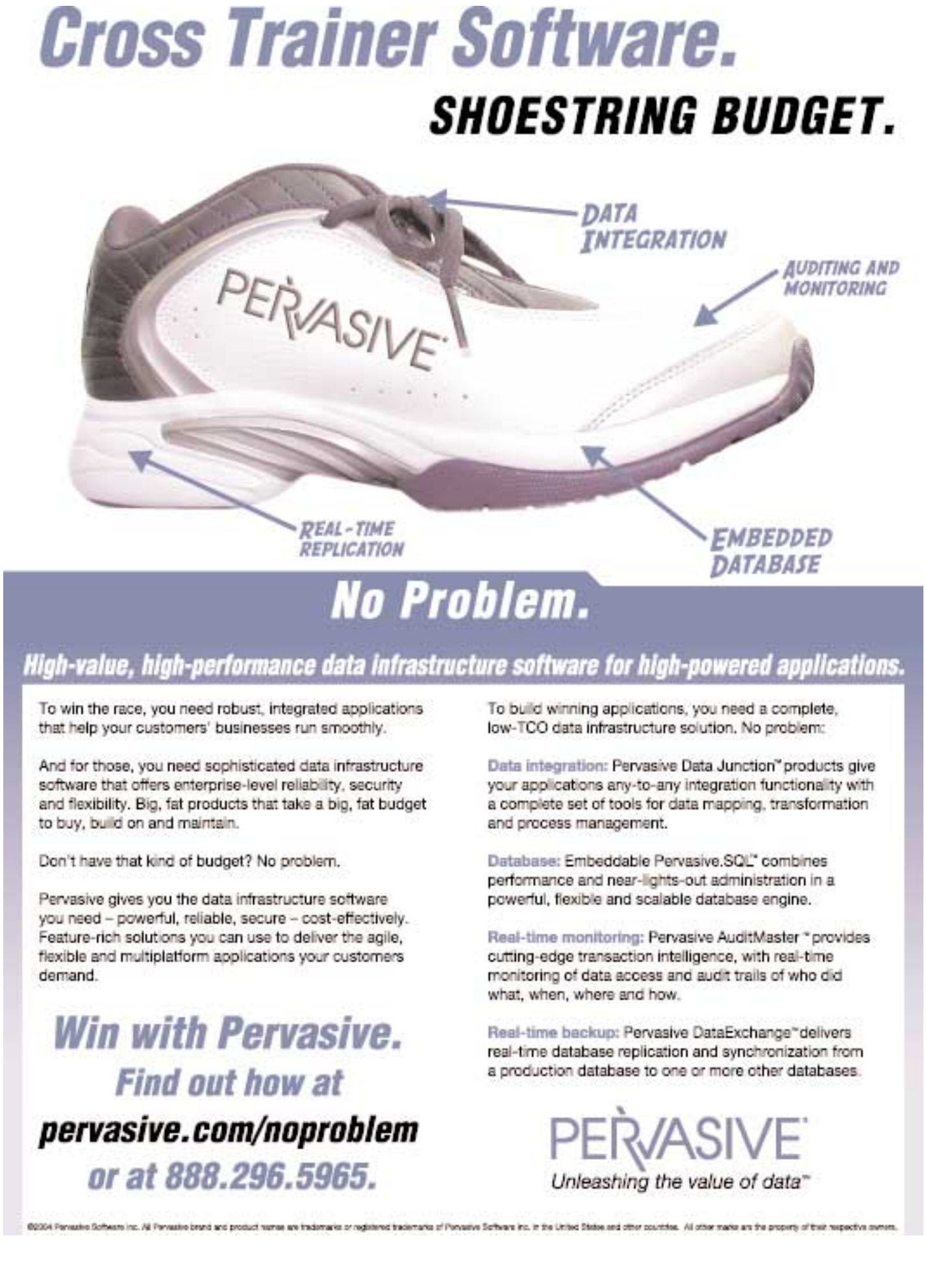
OUTSOURCING AND IP

Aside from confusion regarding licensing, IP issues often arise when development projects are outsourced overseas, where developers aren't always respectful of intellectual property rights and where companies don't always have tight control over where the code in an application is coming from.

The protexIP Suite consists of protexIP/Development, a service that scans code and detects any open-source or proprietary software and automatically tells the user if there are license issues that need to be resolved, Levin explained. Companies normally install this service behind their own firewall, he noted. The service integrates with the Eclipse development framework and with the CVS version control system, he said, and has a new command-line interface for developers not using IDEs.

After the code is scanned, the service generates a project license profile, which, once the software is declared clean, can be stored in the company's protexIP/Registry, which Black Duck hosts behind its firewall. "Companies need a trusted information service" that can help cut their exposure to legal issues, Levin said.

A five-seat license costs US$2,500 per seat per year, while a 500-seat license costs $750 per seat per year, and the registry costs $1,000 per registered release, Levin explained. It also includes online updates to the knowledge base of licenses, software upgrades and support, he added. ▮



Red Hat Desktop Linux: No Native .NET

◂ continued from page 1

clients, giving them mandatory access controls that developers can use to fortify systems against attacks from rogue users and applications. "And if they do end up getting in, SE can partition them into specific locations so they can't make significant changes," he noted.

Red Hat Desktop will work with software from Adobe, RealNetworks and VMware and will bundle open-source editions of the Mozilla browser, OpenOffice productivity software and Evolution.

As for the .NET runtimes, "we will continue to monitor the .NET clone situation but have not yet reached a final decision," added Havoc Pennington, Red Hat's desktop engineering lead.

Meanwhile, Novell is bracing for battle. "We're getting some of our cannons aligned," said Nat Friedman, Novell's vice president of Linux desktop engineering, regarding how Evolution 2.0's ability to link natively with Exchange or GroupWise back-end servers will give Novell a strategic advantage over Red Hat. Enterprise customers, he said, "want to drop a Linux desktop in place and have it talk to the rest of the network, and we're making that possible."

Also new in Evolution 2.0 will be extensibility through managed code, something not possible previously. "People will be able to [use Mono to] programmatically extend the applications that are core to [their] collaboration infrastructure," to add workflow components or integrate contact and calendar data, he said.

Miguel de Icaza, CTO of Novell's Ximian Services business unit, contrasted the company's approach to handling Windows application migration with Red Hat's VMware /Citrix solution. "With VMware you run Windows in your [Linux] computer; you need to buy a [Windows] license, and you still get every problem. The advantage is having two PCs in one; the disadvantage is they are both slow." The advantage of Citrix, he said, is centralized administration, which simplifies app maintenance. Neither solution permits integration of Windows apps with Linux apps running locally, he said.

The execution environment of Mono runs applications natively on Linux at Linux speed; there's no emulation, de Icaza said. The disadvantage, he said, is that it can only run applications expressly developed for .NET, ASP.NET Web sites and ADO.NET databases. Because Mono does not implement Windows.Forms, apps written for Microsoft's Win32 stack will have to wait until Mono 1.2. "We have our own stack for building GNOME and GUI applications on Linux [and wanted] to care for our own user base first."

According to de Icaza, as Microsoft makes changes and additions to the platform, so is Novell. "We're been adding features to catch up [with Microsoft]. It now offers ADO.NET, ASP.NET and C# 2 features [including] generics, none of which was in the original plan. It's a lot more than a compiler and runtime; now it's more complete and interesting." ▮

Puzzling Plethora of Proffered Protocols

◂ continued from page 1

part of this grand plan that will work together. End users need a reduced number of specs that will work well together."

OASIS has 59 active technical committees listed on its Web site along with the work from 11 completed technical committees. The W3C has its own list of current activities in the areas of accessibility, architecture, interaction, quality assurance and technology and society, along with 15 closed activities that fall into those categories.

On top of this, vendors—particularly BEA, IBM and Microsoft—have promoted specifications on their own sites as standards.

"What this indicates is that Web services and interoperability is a complex undertaking," said Dana Gardner, senior analyst at The Yankee Group, based in Boston. "You need a number of standards in many different things."

In the past, a vendor consortium might make a single specification and try to include all potential issues involved in that specification; now that situation is reversed, said Corey Ferengul, vice president and principal analyst at Stamford, Conn.-based Meta Group Inc. "Web services attack things in small chunks," he said.

Not only are Web services specifications being handled in pieces, but the process has been turned on its head, with vendors coming out with products and then submitting aspects to vendor consortia, rather than a group coming up with a specification and vendors writing to it.

"There's a new order to how the large vendors are approaching standardization," said Yankee's Gardner. "What we're seeing increasingly is that companies will create their own 'standard,' produce a product and submit it to a standards body."

According to Meta's Ferengul, "Very simply put, the reason for all the standards is there are a lot of vendors with competing beliefs."

Some of the impetus for this reversal came as companies watched when Sun was asked to open up Java, Gardner said. "When the people said to make it a standard, Sun said, 'No, standards bodies are too slow. We'll create Java and take input from other companies.' Microsoft and IBM said, 'We like that.'" Those two companies used that experience to spur their work on WS-Security, which it submitted to OASIS, he said.

In other cases, such as WS-Federation, WS-Eventing and WS-Discovery, vendors have released a specification and made it available on their Web sites without submitting it to any vendor consortium or standards body.

IT'S ALL ABOUT MARKETING

Vendors use such specifications both to test and to promote their products, said ZapThink's Schmelzer. Microsoft is spearheading WS-Security, but it doesn't have any security products, he pointed out. "They can use the fallout from the spec to determine what to put in products."

BEA uses the opposite approach. "The right order is you innovate, you test it in the marketplace, then you standardize," said BEA deputy CTO Benjamin Renaud. "When we innovate, we know very quickly what people like. If they do, then we take it to a standards body."

Proffering aspects of its products as standards or available specifications may be BEA's way of raising its profile, said Bola Rotibi, an analyst with London-based Ovum Ltd., but the danger, she added, is that BEA may be talking about specifications too much. "You shout wolf through everything, and no one listens to you when you have something."

NONSTANDARD 'STANDARDS'

Another danger is that these so-called standards end up being anything but. BEA has been criticized because many of its extensions have meant Java applications written using those extensions aren't able to run on other servers.

In addition, competing specifications have arisen, even in the same consortium, said Meta's Ferengul.

"It's not uncommon to see two or more standards attacking one problem," he said. "Companies are proposing standards and letting the standards bodies sort it out."

Even then, a group may have more than one group addressing a problem, said ZapThink's Schmelzer. "It doesn't take that much to start a working group at OASIS," he said.

All the standards, specifications and vendors' extensions posing as standards have left some developers confused.

"It's ridiculous," said Scott Metzger, CTO of TrueLink Inc., a San Luis Obispo, Calif., division of TransUnion LLC. "OASIS is just one [vendor] group. There's the whole JCP process, W3C and the relationship between them all." Nevertheless, Metzger said he was interested in industry specifications, particularly those that deal with security, an issue that his company faces daily.

STOPPING THE CONFUSION

Analysts suggested several steps that developers can take to reduce confusion and maximize interoperability.

First, said Schmelzer, companies should work with product vendors to make sure their interoperability and interaction concerns are addressed. "Let them know, 'We're not going to let you put these specs on the market that aren't going to work with other vendors','" he said.

They should make sure vendors know what their applications need to work with and how, said Meta's Ferengul.

Developers shouldn't track the specifications themselves, said Schmelzer. "There actually is one thing that end users should be involved in, and that's the WS-I." WS-I's Basic Profile is not a standard but takes specifications from the W3C and OASIS and imposes strict interpretations so that products from various vendors interoperate.

Both Ferengul and Schmelzer advised that organizations code Web services using the bare minimum: XML files sent using SOAP and exposed using WSDL.

"Go slow; do not adopt any application based on the standard unless it's a standard that's final," said Ferengul.

"It's better to follow than to lead," said Schmelzer.

"This is why we're three years or so into Web services and the Meta Group thinks we're still a year or so from adoption," said Ferengul. ▮

SAMPLING OF WEB SERVICES SPECIFICATIONS

SOAP 1.2	W3C	Protocol for exchanging information in a decentralized, distributed environment. Includes envelope, encoding rules and a way to represent remote procedure calls.
JSR 109: Web Services for J2EE	Java Community Process	Defines the programming model and runtime architecture for implementing Web services in Java.
JSR 172: J2ME Web Services	Java Community Process	Provides a model for J2ME client communication.
UDDI 3.0	OASIS	Defines a set of services for describing and finding out about organizations, their Web services and the technical interfaces to those services.
WS-Attachments	IETF	Provides a method for encapsulating SOAP messages and making attachments to SOAP messages.
WSDL 2.0	W3C	An XML format for describing network services as a set of endpoints operating on messages containing either document-oriented or procedure-oriented information.
WS-I Basic Profile 1.0	WS-I	Set of named and versioned Web services specifications and clarifications of specifications and interoperability guidelines to promote interoperable Web services.
WS-Security	OASIS	Adds to SOAP protocol mechanisms for message integrity, message confidentiality and single message authentication.
XML	W3C	Markup language specification for Web services; is the basis for industry-specific languages.

Apple's Developers to Catch Tiger by the Tail

◂ continued from page 12

year were first-timers," he said. "The vast majority had been programming on the Mac for five years or less."

The conference also will feature expanded IT and QuickTime tracks, as well as a new scientific computing track.

Previously, the company had geared the tracks at its developer conference around specific technologies, such as Cocoa and Carbon or Quartz, but now it is also building developer tracks directed toward specific types of developers, said C.K. Haun, senior director for developer technical support.

The new scientific computing track follows on the heels of the IT track, which was introduced in 2003. It will focus on developers who work in growing industries such as biotech that have to perform complex computations, but might have had to use separate computers for scientific work and for general desktop applications before Mac OS X, Haun said.

The QuickTime track will focus not only on those who develop applications using these technologies, but also on those who make content using them, Okomoto said.

Other tracks are application technologies, development tools, enterprise IT, graphics and media, hardware technologies and OS foundations.

Okomoto emphasized that Apple engineers who developed the technology conduct the WWDC sessions for attendees. ▮

ComponentPhobic?

We've got your Cure.

ComponentOne, the leading global component publisher, has leveraged over 17 years of development experience and crafted the most complete line of components anywhere. Our suite of integrated plug and play components are powered by a unique architectural framework that targets data, presentation, reporting, and transformation application layers as well as the most popular run-time environments including .NET, ASP.NET, Mobile, and COM.

Hundreds of thousands of our components are being integrated into applications worldwide. Fortune 500 organizations and individual developers are deriving countless benefits from ComponentOne products. Benefits include lower development costs, faster time-to-market, rich and deep functionality, ongoing access to cutting-edge technology, and full support for emerging technologies from our Microsoft and Borland partners.

Combine these benefits with our enterprise services including top-notch support and maintenance, software subscriptions, source code, and escrow agreements—and your phobia has just met its cure.

It's time for your checkup at www.componentone.com

Studio Enterprise Framework

Optimized for Visual Studio .net

Grids · Reporting · Print Preview · Charting · Data · Query · Input · List · Zip · PDF · XLS · Menus · Toolbars · Resizing · Spell Checking · eCommerce

More Tools. Endless Possibilities.

Development Tools · Help Authoring · Web Self-Service

ComponentOne C1

© 1987-2004 ComponentOne LLC. All rights reserved. All product names are owned by their respective owners.

Over 50 Great Classes and Tutorials!

Building Embedded Linux Systems on a Windows-based Host
Embedded Java Technology Overview
Full-Day Tutorial: User Interface Design
Test Driven Design for Embedded Systems
Internet Security for Embedded Devices
Building Better Windows CE Systems
Extreme Programming for Embedded Systems
Developing With J2ME
Debugging Embedded Linux Systems
Advanced Principles of Object-Oriented Design
Design Patterns for High-Availability Embedded Systems
Executable UML
The Mystery of Mutexes, Explained
Connecting Embedded Linux to Internet and Enterprise Systems
Building Windows XP Embedded Applications
Configuring Your RTOS Using Queuing Calculations
Object-Oriented Design for Platform Independence
Mastering the Interrupt Architecture of Windows CE
Usability Inspections
Principles of Model Driven Architecture
Using Posix Threads
Implementing Better Security in Wireless Embedded Systems
Coping With Changing Requirements
Programming Considerations: Palm OS
Safety-Critical Development in Java
Debugging Tips and Tricks for Windows CE
Linux, the Law and Embedded Systems: Licenses and Best Practices
Embedded Design: How Much Does Processor Speed Matter?
Writing Device Drivers for Embedded Linux
Choosing a Real-Time Operating System
Integrating Web Services and Wireless Capabilities in Embedded Systems
Requirements Analysis for Embedded Systems
Optimizing Java Performance for Embedded Systems
Designing and Optimizing Windows CE .NET for Real-Time Performance
Programming Considerations: Pocket PC
Minimizing Context Switch Times in Large Register Set Environments
Real-Time Java Development Using J2SE APIs
Software Architecture for Networked Digital Media
Real-Time Performance in Embedded Linux: Myths, Legends and Facts
System Design: Architectures and Archetypes

Embedded Software Development CONFERENCE

Hear from the BEST thinkers and practitioners in Embedded Development!!

Stephen J. Mellor
Stephen J. Mellor is an internationally recognized pioneer in creating effective engineering approaches to software development. In 1985, he published the widely read Ward-Mellor trilogy Structured Development for Real-Time Systems; in 1988, the first books defining object-oriented analysis; and in 2002 Executable UML: A Foundation for Model-Driven Architecture. His latest book, MDA Distilled: Principles of Model-Driven Architecture, was published in 2004.

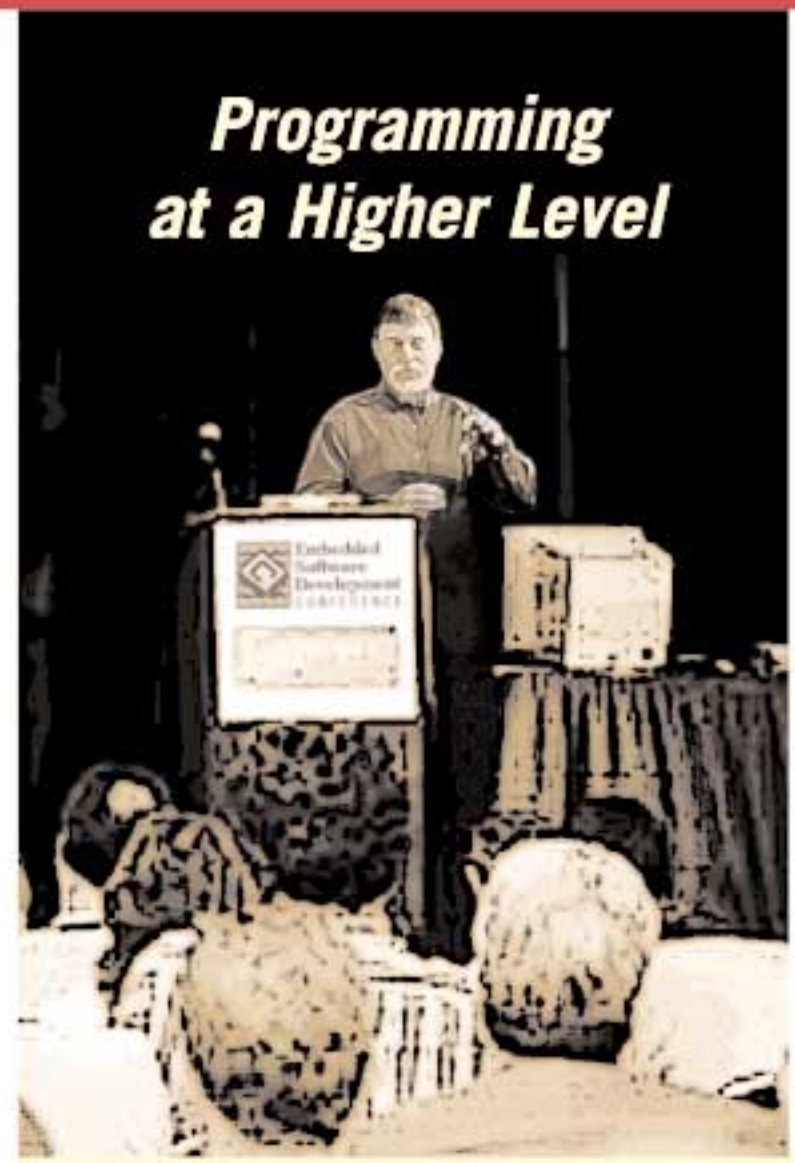
Larry Constantine
Larry Constantine is one of the pioneers of software design in usage-centered design. Larry has published more than 150 articles and papers plus 16 books, including the award-winning Software for Use (Addison-Wesley, 1999), written with Lucy Lockwood; The Peopleware Papers (Prentice Hall, 2001); and the software engineering classic, Structured Design (Prentice Hall, 1979), written with Ed Yourdon.

Michael Barr
Michael Barr, former Editor-in-Chief of Embedded Systems Programming magazine, is the founder and president of Netrino LLC. Michael has spent more than a decade developing embedded software, device drivers and system-level software. He has written two popular books, Programming Embedded Systems in C and C++ (O'Reilly), and the Embedded Systems Dictionary (CMP Books) with Jack Ganssle.

100% Embedded Software Development

August 17-19, 2004
DoubleTree Hotel
San Jose, California

Registration Now Open!
Early Bird Deadline July 9



Larry Constantine ★ Stephen J. Mellor
Michael Barr ★ Robert C. Martin
Karim Yaghmour ★ And many more!

Robert C. Martin
Robert C. Martin is the founder of Object Mentor Inc., a training company specializing in process improvement and object-oriented software design. Former Editor-in-Chief of C++ Report, he is the author or co-author of six books, including, with James Newkirk, Extreme Programming in Practice (Addison-Wesley), and UML for Java Programmers (Prentice Hall). Bob has published dozens of articles in various trade journals, and is a regular speaker at international conferences.

Karim Yaghmour
Karim Yaghmour is President of Opersys Inc., a company that helps others build embedded Linux systems. Karim is a widely recognized figure in the open-source community and the author of the most popular book on Embedded Linux, according to Amazon.com: Building Embedded Linux Systems (O'Reilly). Karim is also the maintainer of the Linux Trace Toolkit, and has been selected as a Special Supporting Member to the CE Linux Forum.

Silicon Valley Location!

The Embedded Software Development Conference will be held at the DoubleTree Hotel, in the heart of Silicon Valley. The hotel is close to the San Jose International Airport, next to U.S. 101 and just a few blocks from I-880. The hotel provides a complimentary airport shuttle as well as ample parking. Downtown San Jose is just minutes away.

Produced by
BZ Media · SD Times · Software Test & Performance

Media Sponsors:
electronic design · Electronic Products · EE Product News · Embedded 365 · Convergence · Extension Media · COTS Journal · Planet EE · RTC · EmbeddedMarket forecasters · IQ · Wireless Systems Design

To exhibit or become a sponsor,

Contact Donna Esposito
415-785-3419
desposito@bzmedia.com

Or Ted Bahr
516-922-2101 x101
ted@bzmedia.com

Learn More Today at www.esdevcon.com

ADVERTISEMENT

Software FX gets a taste of its own medicine

Self implementation increases understanding of customer needs

Most developers agree that the one thing you can count on with code is that it will change. When changes happen, most of us don't have the time to go through each line of code. Although components aren't an absolute requirement for development, they can save you significant time when making code changes. Components reduce the mundane engineering that developers worry about like portability, interoperability, scalability and performance. And that's a big advantage.

So, if you think of components not as something that eliminates the need to write code, but instead as something that makes the process of writing code in a larger system manageable; you may have come up with a solid conclusion. The understanding that having a component-based application is important, not because somebody told you so, but because you understand the benefits it brings to the development process.

Chart FX for .NET shown with the ▲ Wizard and the ◀ Resource Center within Visual Studio.NET.

During the porting of Software FX's corporate intranet to ASP.NET that we came to experience and realize what .NET had to offer and the challenges involved with porting a functional application to a new platform. To us it was like *a taste of our own medicine*, as most of our intranet reports were built using our own product, Chart FX.

Interestingly, our developers had little problems or concerns connecting Chart FX to a myriad of data sources like SQL, XML and text files coming from external distributors. Similarly, they didn't report any security, performance or scalability issues; or complain about porting old Chart FX code, most of which were legitimate concerns when we decided to make the switch to .NET.

Instead, we quickly realized our developers spent an unusual amount of time coding business rules and logic that would help upper management visualize areas that needed attention to make critical business decisions. Ultimately, we concluded that developers could not divorce themselves from coding and configuring data-presentation components since they were coupled directly to the data extraction process. Therefore, they couldn't embrace the code-behind concept that separates code from the presentation layer. For example, we wanted chart markers to be colored according to a certain condition and provide drilldown capabilities to find the root of such situations, this had to be done by carefully inspecting the data and coding such conditions into the application.

This way their main coding effort was invested in making the chart reflect these conditions, yet they were able to come up with truly astonishing charts in terms of presentation. The Chart FX for .NET Wizard and Resource Center were crucial to achieving this goal with little or no development efforts on their part. To us, that was a major accomplishment since Chart FX for .NET provides over 800 properties, methods and events that they didn't have to learn before they could be productive with our tool. The last thing you want to do when porting an application to .NET is spend significant resources learning how third-party components work and behave.

From Primary Care to Specialist

However, in the end we found ourselves in a situation where the GUIs, and especially the charts, were tightly bound to the data. And as a result, if any business rules changed or any of our data itself changed, it had this tremendous rippling effect throughout our code. We knew this situation would make our intranet unable to respond to future business needs. In other words, an application that although built with the latest .NET technology, was resistant rather than resilient to changes.

This situation reached dramatic proportions when our developers were investing countless hours trying to satisfy the information needs of our sales, marketing and support departments. At this point, they were concerned that we were diverting from the original project and were still far from completion.

The solution, to us, was simple: *Chart FX Extensions*.

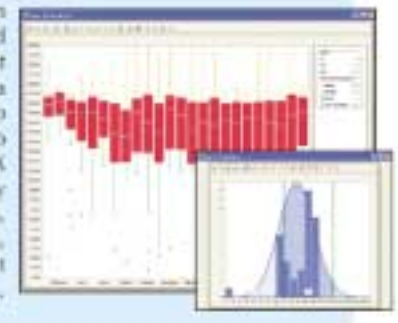
With these extensions, Chart FX provides easier integration to connect more meaningfully with your data. This means developers are no longer required to spend countless hours configuring a generic charting component to specific data. Instead, the Chart FX Extensions can be stitched together to adapt to data sources enabling organizations to quickly and economically gain access to specialized solutions that meet unique business needs.

To the right are a series of snapshots about the Chart FX Extensions and how we were able to consume them for our own benefit. In the end, Chart FX had the cure for what ailed us.

How does marketing keep track of where products sell?
This is performed by a different set of queries that integrate data from our internal point of sales system as well as data coming from external distributors, each of which has its own different IT system. We ended up with an ASP.NET page that would take data from a variety of sources, including SQL and XML, and map the data using universally supported SVG images. **Chart FX Maps** would simply take this data source and would allow logical groupings and views that would otherwise take weeks to code. Get more information at www.softwarefx.com/maps.

How do our managers slice and dice our sales data?
We OLAP-enabled our point of sales system using SQL Server Analysis Services and integrated **Chart FX OLAP** and ADOMD to connect to a multi-dimensional data source that is navigated without additional efforts from our developers. The result: a simple ASP.NET page that exposes a chart with a powerful, yet simple, user interface that allows data pivoting, drilldown and slicing to present data views that would otherwise take months to code. Learn more at www.softwarefx.com/olap.

How do we analyze thousands of leads?
Populating and configuring a charting solution with large datasets is not easy, the chart looks clogged and it is difficult to read. **Chart FX Statistical** allows us to focus on data analysis, quality control and data modeling on processes that generate large amounts of data like trial downloads and web traffic. We bound the chart to the database and the Chart FX Statistical extension quickly produces descriptive statistics, correlations and SPC charts, among others. Get more at www.softwarefx.com/statistical.



How can our staff react immediately to support requests?
Our developers built a real-time data extraction application from on-line newsgroups, Microsoft Exchange Server and support accounts that uses **Chart FX Real-Time**'s server-side in-memory data storage to create charts with open support issues that are displayed in real-time in the browser without the need to manually refresh. See more at www.softwarefx.com/realtime.

10 YEARS
Software FX
Any Chart, Anywhere!

©2004 Software FX. All rights reserved.
Chart FX is a registered trademarks of Software FX, Inc.

IBM Tightens COBOL, Java Ties

Company updates language tool, WebSphere

BY JENNIFER DEJONG

Easing communication between COBOL and Java, IBM Corp. was expected last month to announce updated versions of the programming language Enterprise COBOL and its mainframe Java development environment, WebSphere Studio Enterprise Developer.

New to Enterprise COBOL 3.3 is the ability to generate XML code from COBOL data structures, said Jim Rhyne, an IBM distinguished engineer for eServer tools, technology and enterprise modernization. The previous version could process inbound XML code, but developers had to write by hand the outbound XML reply.

Support for two-way XML enables COBOL applications, such as those that process insurance claims, to interact more easily with customers who access their accounts from the Web. For instance, a COBOL application can now include ancillary data, such as a photograph of a damaged automobile, in a customer file, said Rhyne. "In the past, COBOL simply peeled off the photograph."

Version 3.3 lets mainframe developers create EJBs in COBOL using the mainframe version of IBM's application server. Also new is support for version 8 of the company's DB2 Universal Database for z/OS, as well as increased debugging capabilities.

The new version of WebSphere Studio Enterprise Developer, 5.1.1, lets mainframe developers create Web services and other components without having to master the intricacies of Java, said Rhyne. "We are plugging the hole between J2EE, the connectors, CICS and IMS."

Version 5.1.1 supports Enterprise COBOL 3.3 and Enterprise PL/I 3.3, and z/OS connectivity and queue management. ■

J2EE 1.5 Sets Sights on Easier Use

◂ continued from page 1

approving the ballot to begin the JSR. It will not include any new technologies, but will be an umbrella over other Java technologies, according to the specification's road map site.

The official JSR 244 Web site lists six technologies as being proposed for inclusion in J2EE 1.5, but they will not necessarily be in the final specification, said Ed Cobb, BEA Systems Inc.'s vice president of architecture and standards. Those new things are Web Services Metadata for the Java Platform, Enterprise JavaBeans 3.0, Java API for XML Data Binding (JAXB) 2.0, Java API for XML-Based Remote Procedure Calls (JAX-RPC) 2.0, JavaServer Faces 1.0, and a Standard Tag Library for JavaServer Pages (JSTL) 1.1.

The next server Java version will include work from J2SE 1.5 and will also incorporate several other Java specifications that currently are being developed, said members of the expert group working on J2EE 1.5.

"These are not things that definitely will be in the release; these are things that Sun as specification lead thinks that should be considered to be in the release," Cobb said.

Specification lead Bill Shannon of Sun declined to be interviewed for this story.

In particular, Cobb and Ted Farrell, Oracle Corp.'s chief architect for application development, said the metadata specification and the revamped EJB specification would ease programmer headaches.

Farrell said the Web Services Metadata specification makes it possible for developers to add annotations about the code and have those annotations persist with the code even after it is compiled.

BEA's Cobb said that like Oracle, his company is part of the expert group on JSR 181, or Web Services Metadata, and would like to see the metadata specification in J2EE 1.5.

EJB 3.0, which relies on the metadata specification, will be a major overhaul to the previous EJB specification. It is scheduled to begin its final public review this month and to be finished at the same time as J2EE 1.5.

"EJB has always had the stigma that it's not fixed enough or it's too rigid," said Farrell.

"Some of the features of EJBs are easier to use by using some of the metadata that's in J2SE 1.5," said Cobb.

In addition to supporting annotations, EJB 3.0 will rely on generics and extending the Java language to include enumerations, enhanced for loops and static import, all of which were part of J2SE 1.5, which was formally announced last February and is in its second public review.

The new EJB specification will require fewer descriptors and instead use more default settings, according to the Java Specification Request site.

Since these JSRs are being combined into J2EE 1.5, their development will be interdependent and that could delay the individual JSRs' introductions, Farrell said.

The other specifications, JAXB, JAX-RPC and JavaServer Faces, deal with communicating XML in Java and with building user interfaces, respectively. ■

SPECS FOR THE SPEC

Preliminary Schedule:

May 2004	Expert group formed
June 2004	First expert draft
Aug. 2004	Community review
Sept. 2004	Public Review
Jan. 2005	Proposed final draft
March 2005	Reference implementation beta release
July 2005	Final release

Expert group members: BEA, IBM, Oracle, Sun

Proposed JSRs for Inclusion in J2EE 1.5:

52	Standard Tag Library for JavaServer Pages (JSTL) 1.1.
127	JavaServer Faces 1.0
181	Web Services Metadata for the Java Platform
220	Enterprise JavaBeans 3.0
222	Java API for XML Data Binding (JAXB) 2.0
224	Java API for XML-Based Remote Procedure Calls (JAX-RPC) 2.0

Source: www.jcp.org

News Briefs

MORE UPGRADES

◂ continued from page 6

by GreenPoint Inc., starts at US$450 for the designer interface and $1,250 for a deployment server . . . Hamburg, Germany-based Gentleware AG has released version 2.3 of its **Poseidon for UML** CASE tool that now can model more elements from UML 2.0, including ports, connectors and other new diagram types. The company offers a free "community edition" of the Java-based software, and also has paid versions beginning at US$249 or €199 per developer . . . DevComponents LLC has updated **DotNetBar**, a set of components that provide .NET applications with the look-and-feel of Windows XP or Office 2003. Version 3.7 of the suite adds Outlook 2003-style navigation panes. DotNetBar costs US$189 per developer, or $1,399 for a site license . . . Compuware Corp. has updated its test suite, **QACenter Enterprise Edition**. The revised suite is unchanged other than the inclusion of the 5.2 version of **TestPartner**, which can now test .NET Framework 1.1, SAP 6.20 and Java 1.4 applications. Pricing begins at US$6,500 per seat . . . Gorilla Logic Inc. is offering version 0.93 of its **Execution Engine**, a tool that can generate executable application prototypes directly from UML models. This prerelease code now can work with IBM's Rational XDE modeler. The Execution Engine was initially set for a March release; no new date has been given . . . Canoo Engineering AG has updated **UltraLightClient**, its software library that provides thin-client support for Java Swing applications. Version 5.2 allows drag-and-drop user interaction, and also has implemented distributed garbage collection between client and server interactions. The software costs US$1,495 per developer, with no charge for runtime distribution . . . Toronto-based Dundas Software Ltd. has released version 4.0 of **Dundas Chart for .NET**, a server-based graph and chart creation component for ASP.NET and Windows Forms. The update can create animated graphs, Flash rendering and several new types of financial charts. It also allows developers to create and reuse chart templates to maintain a specific look-and-feel. Pricing begins at US$699 . . . VanDyke Software Inc. has updated **VShell**, its SSH2 server for Unix and Windows. Version 2.3 gives administrators the ability to precisely define file transfer privileges based on virtual directories. Pricing begins at US$249 per user . . . ComponentOne LLC has released **ComponentOne Studio Enterprise 2004 version 2**, its component suite for Windows. The update adds XLS for .NET, a component for reading and writing Excel files; a new docking tab control; a print preview tool; and enhancements to its WebGrid for ASP.NET data grid and spell checker.

PEOPLE

RUIZ

Hector Ruiz, CEO and president of Advanced Micro Devices Inc., has been appointed chairman of the chip maker. Outgoing chairman **W. J. Sanders III**, a cofounder of the company, has retired and has been named chairman emeritus. Ruiz joined AMD as president and COO in January 2000 . . . InterSystems Corp. has promoted four managers to vice president: **Joseph DeSantis**, who manages object technology development; **Richard Deutsch**, in charge of marketing; **Robert Nagle**, who manages systems software; and **John Paladino**, who directs support and QA . . . AppForge Inc., which makes mobile development tools, has promoted **Merrill Oakes** to VP of sales and marketing. He joined the company in December 2003 as director of enterprise sales.

STANDARDS

Sun Microsystems Inc. and INRIA, the French national institute for research in computer science, signed an agreement to certify **Jonas**, an open-source Java application server developed by the ObjectWeb consortium, as compliant with J2EE 1.4. ObjectWeb is an international nonprofit consortium specializing in open-source middleware, hosted by INRIA. ■

Optimized for
Microsoft Visual Studio .net

But it works on my machine...

With Wise it will work on theirs too

What you expect from the installation authoring experts:

- Create desktop, server, Web and mobile installations
- Industry's best .MSI and .NET Framework support
- Quick-to-master installation authoring environment
- Support for advanced technologies: SQL Server, ASP.NET, C#, VB.NET, XML Web services, no touch deployment and more

What's new – only from Wise:

Ensure optimum installation reliability with Wise's installation management technology:

- Diagnose and fix potential conflicts *before* your application's release
- Understand exactly how your application will be affected by the production environment's configuration
- Manage the complexity of installation resources by storing components in a centralized repository – accessible by all developers – regardless of location

Download your free evaluation at **http://evaluations.wise.com** and receive the free installation management whitepaper: *"How to build reliable installations for complex environments."*

©2004 Wise Solutions Inc. All rights reserved.

BUILD RELIABLE INSTALLATIONS FOR COMPLEX ENVIRONMENTS WITH WISE FOR WINDOWS INSTALLER®

Microsoft on Devices: It's All About Web Services

Trio of new APIs, development tools unify device discovery, use and interoperability

BY EDWARD J. CORREIA

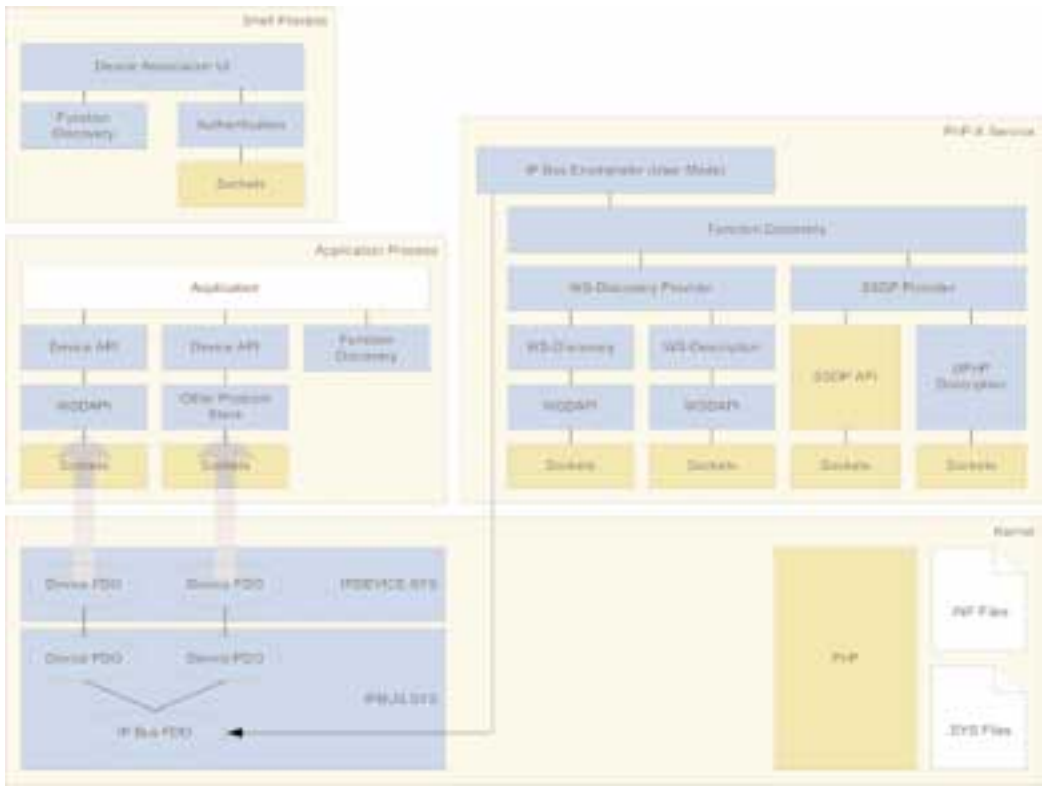
Microsoft Corp. wants to change the way applications communicate with devices.

The company is working on a series of new APIs that it says will make devices appear to applications as Web services, just like the software-based Web services on enterprise networks and the Internet.

Microsoft unveiled previews of three new APIs and a driver development kit at WinHEC, its annual Windows Hardware Engineering Conference in May, and plans to incorporate the APIs in Longhorn, the next version of its .NET Framework.

Of the three, the API likely to be most interesting to enterprise developers is Function Discovery, a working name for the spec that defines a consistent means of discovering, enumerating and communicating with devices seen by a computer or its applications, regardless of how that device is connected.

Such consistency is something Windows developers currently lack, according to Pete McKiernan, lead product manager in Microsoft's Platform Strategy and Partner Group. "If they're looking for a speech device, they have one API to go through. If they're looking for an audio output device, they have another, and another for an imaging device," said McKiernan.



Microsoft's PnP-X specifies a means for apps to discover and drive devices regardless of how they are connected.

Function Discovery solves this problem, he said, by defining a single API that communicates with the others, be they connected by network or bus. "This gives the PC or application a consistent picture of the device's state and metadata; it appears like any other Web service."

To make this possible, two additional APIs have been developed, both of which must be implemented by device makers. McKiernan said PnP-X will allow Web services-enabled devices to be configured via Microsoft's Plug and Play subsystem. "If you're writing an application and want to connect to a device, this will make the process easier. You can plug a device into your network and away it would go."

McKiernan said that without more capable device communications, current applications are limited, and illustrated his point with an accounting application. "If your application is going to print checks, right now all you can know is that every check got sent to the printer. There's no way to determine that every check got printed, and that it printed each check only once."

Through a third API, Web Services for Devices, such device capabilities can be added by exposing event information back to applications they're working with along a workflow process, he said. "If a warehouse application is printing pick tickets, for example, it could get more precise information from printers, barcode scanners, scales and other sensors throughout a production line," allowing greater degrees of automation.

"Both of those will talk to Function Discovery and that will act as a central library," McKiernan explained. "The developer doesn't need to care how that device is being accessed." He added that all original individual APIs will still be addressable in the future, but "it's a layer of complexity that we think most developers don't want to deal with." Hewlett-Packard and Canon demonstrated devices developed with the new APIs at WinHEC, according to McKiernan.

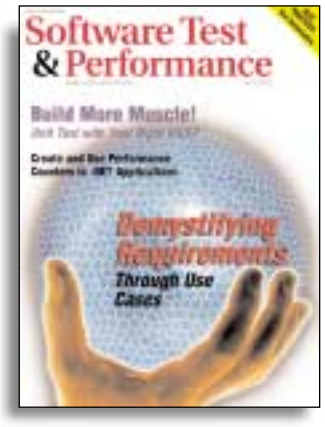
Also included in the new specifications is Devices Profile for Web Services—co-authored by Intel, Lexmark and Ricoh—that defines a base level of functionality to be delivered on devices through a subset of pre-existing Web services. Microsoft also introduced for OEMs the Network Connected Device Driver Development Kit, a set of tools for implementing the Devices Profile in their hardware.

Links to preview editions of the new APIs can be found at www.microsoft.com/NET/SmartClient/web_services.mspx. The company gave no specific time line for general release. ■

BUSINESS INTELLIGENCE

www.sdtimes.com

QUALITY ASSURANCE



To apply for a FREE subscription, go to www.stpmag.com

For advertising call:

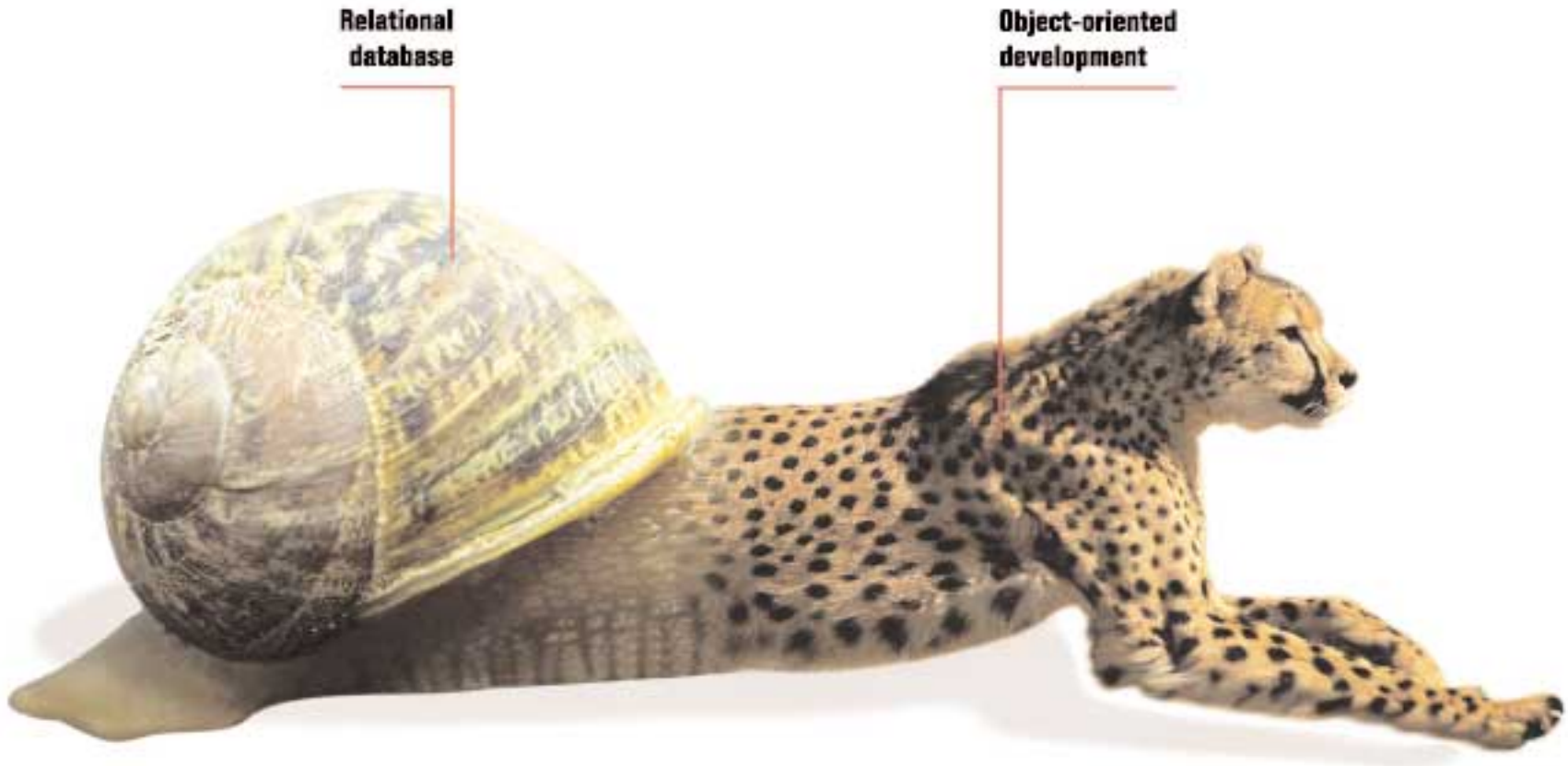
David Karp
Northeast/Central
516-922-5253
dkarp@bzmedia.com

Jonathan Sawyer
Southeast/Europe
603-924-4489
jsawyer@bzmedia.com

Julie Fountain
Southwest
831-476-1716
jfountain@bzmedia.com

Paula F. Miller
Northwest
925-831-3803
pmiller@bzmedia.com

BZ Media



DON'T LET YOUR DBMS SLOW YOU DOWN

If your back-end database isn't a good match for your front-end development, you need a new database.

Caché is the *post-relational* database that combines high-performance SQL for faster queries and an advanced object database for rapidly storing and accessing objects. With Caché, no mapping is required between object and relational views of data. That means huge savings in both development and processing time.

Applications built on Caché are massively scalable and lightning-fast. Plus, they require minimal or no database administration.

More than just a database system, Caché incorporates a powerful Web application development environment that dramatically reduces the time to build and modify applications.

The reliability of Caché is proven every day in "life-or-death" applications at thousands of the world's largest hospitals. Caché is so reliable, it's the leading database in healthcare – and it powers enterprise applications in financial services, government and many other sectors.

We are InterSystems, a specialist in data management technology for twenty-five years. We provide 24x7 support to four million users in 88 countries. Caché is available for Windows, OpenVMS, Linux and major UNIX platforms – and it is deployed on systems ranging from two to over 10,000 simultaneous users.

InterSystems
CACHÉ
Make Applications Faster

Try a better database. For free.

Download a free, fully-functional, non-expiring version of Caché or request it on CD at www.InterSystems.com/match1

© 2003 InterSystems Corporation. All rights reserved. InterSystems Caché is a registered trademark of InterSystems Corporation. 7-03

Enterprise Databases: Mission-Critical Commodities

When selecting an enterprise database, developers often choose price over performance

BY EDWARD J. CORREIA

Features, performance and standards support may look great on a press release, but where the rubber hits the road for people deciding on database implementation, the bottom line usually comes down to price.

Paul Strange, director of software development at Selling Source Inc., which builds data-driven Web sites for retailers, said when his company got started, price was the primary factor. "We selected MySQL because we were small, it was free, and because it was well integrated with PHP, our language of choice."

That response was typical of developers and even vendors, as SD Times sought to discover the thinking behind the selection of database products from companies other than the so-called big three: IBM, Microsoft and Oracle.

According to Zack Urlocker, vice president of marketing at MySQL AB, cost is often the leading selection factor for the Web-based applications that are typical for MySQL. "We've had a lot of success in the midtier, with ISVs and the very largest companies looking to lower costs." MySQL is free for noncommercial development or if the commercial developer's source code is released under MySQL's GPL; otherwise the software costs US$500 per server with no per-user fees.

Urlocker said that as Web-based applications have become more business critical over time, they also have migrated from the periphery to the data center's core. But despite the database's importance to the enterprise, Urlocker contends that in the eyes of many companies and prospects, it has become a commodity, "and they want to pay commodity prices and not pay for advanced features they can do without."

IBM Corp. responded—and perhaps contributed—to that commoditization in June 2003 with the introduction of DB2 Express, a full-featured version of its relational database engine for Linux and Windows with a starting price of US$499 plus $99 per user. "We have worked to remove price as one of the roadblocks," said Jeff Jones, director of strategy in IBM's Information Management Solutions division.

OPEN SOURCE, OPEN DOORS

Aside from attractive pricing, Urlocker asserted that open-source gives MySQL a major leg up in terms of freedom from vendor schedules and operating system lock-in. "SQL Server is a great product but will only support Windows. Because we're open-source, [developers] are not beholden to our development plans [and can] port it to lesser platforms and ask us to maintain it," which he said the company does routinely. MySQL currently runs on about 20 platforms.

Nevertheless, IBM's Jones claimed that a clearly defined growth path gives DB2 an advantage over open-source solutions. "If I push the limits of Express, it's just a license change to go to Workgroup edition, or expand into cluster implementations with Enterprise edition. I am not forever bound by the limits of the small database I started with."

GeoNorth LLC, a database consultancy, has learned to expect vendor lock-in. "The first question we ask is, 'What are they currently using?' " said Marshall

▸ continued on page 28

How Some Vendors Are Improving Spatial Relations

Special data types have given rise to specialty databases

BY EDWARD J. CORREIA

Relational databases are not for every job. The emergence of audio, video, spatial and other data types have brought about new tools for storing, retrieving and tagging that data.

"I've always thought of InterSystems as a specialist," said Paul Grabscheid, vice president of marketing at InterSystems Corp., which develops and markets Caché, an object-relational database. "Our customers in many cases are focused on automating medicine, which is more complicated than automating a checking account," he said, and requires large amounts of text and other non-numerical data, plus X-rays and other images, all linked with complex relationships.

Grabscheid drew a clear distinction between Caché and general-purpose databases from the so-called big three. "At IBM, Microsoft and Oracle, their mission is to be a complete solution for everybody. But they end up doing about 80 percent of what 80 percent of the market needs."

Grabscheid said that InterSystems' object database is more closely tuned to the needs of object-oriented programmers. "If you're a Java, .NET or C++ developer, Caché's object model is the same for the data in the database and that used in the application."

Medicine is harder to automate than a checking account, says InterSystems' Grabscheid.

PLUG IT IN, PLUG IT IN

According to Jeff Jones, director of strategy in IBM Corp.'s Information Management Solutions division, IBM has responded to emerging data types with extensions to DB2, its stalwart database engine. "IBM offers extenders for managing exotic forms of data," including those for audio, video, XML, spatial and geodetic data types.

"These go beyond the traditional capabilities of a relational database," Jones continued, "and help it specialize on handling unique forms of information and stretch its bounds." Microsoft Corp. and Oracle Corp. offer similar

Enterprise Databases: Mission-Critical Commodities

◂ continued from page 27

Payne, co-founder of the Anchorage, Ala.-based company. "Often, people will buy a commercial system that has a dependency on a specific database like Oracle or SQL Server," which he said locks developers in for subsequent projects. "That happens a lot."

For customers that have not made significant investments in a database technology, Payne said the choice usually boils down to cost rather than functionality. "Looking at different database flavors, SQL Server tends to fit the bill for small to midlevel organizations because of its low cost and simplicity of licensing."

MYSQL NOT THEIR SQL

After about seven years using MySQL exclusively, Selling Source's Strange said customers began requesting demographic data from their applications, and MySQL hit a wall.

Selling Source's Strange says price was the main factor in selecting MySQL: 'It was free.'

He explained that the demographic analyses required queries across aggregate result sets that returned hundreds of rows instead of just one row, and that some of the values being joined against were not indexed. "We quickly learned that MySQL had a problem with that; it slowed down."

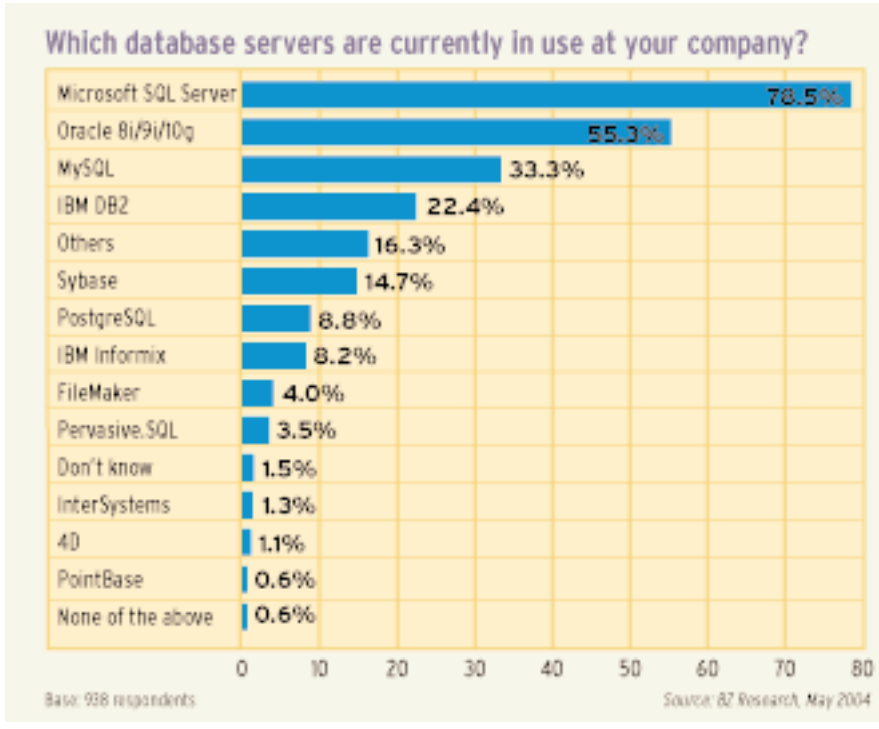
Strange said that indexing and modifying the database structure improved performance a bit, but not sufficiently to solve the problem. "Once we hit about a million rows, even queries against the index would slow the server down."

Selling Source then set about selecting a replacement database, and narrowed the field to three: IBM's DB2, InterSystems' Caché and Oracle's 8i. "We loved the idea that Caché was object-oriented, [but] the change in development model was so drastic that our [SQL] developers couldn't quite grasp it," he said of their evaluation of InterSystems.

As for Oracle, "it took five or six phone calls to Oracle before someone would return our call," their technical questions went unanswered for weeks, and Oracle's six-figure price tag was well over their $60,000 budget.

IBM was selected, once again with price as a major factor. "The support during the presales experience was phenomenal, and they came in at around $20,000—well under budget," Strange said.

But Selling Source's DB2 migration may not have been necessary. Corey Ostman, CTO at PriceGrabber.com LLC, said his online comparison shopping site maintains a MySQL database with hundreds of tables spread across many servers. He puts the total number of rows at around 200 million. "We have not seen any performance degradation within tables greater than a million rows," Ostman said.



PriceGrabber has been using MySQL since the company began in 1999; it now boasts about 12 million users. "We often do queries against tables with 10 million rows that are part of a three- or four-table join with excellent performance," he claimed.

Ostman said that queries are fine-tuned using the EXPLAIN command, which returns a table showing which search strategy MySQL's optimizer used for a particular SQL statement.

PERCEPTION IS REALITY

What one developer perceives as a slow database, another may be certain is not. IBM also has suffered, Jones said, from the perception that it offers just mainframe database software. "That hasn't been true since 1993, when we first gave birth to DB2 on Unix." Unix edition pricing starts at US $999 per server plus $249 per user.

GeoNorth's Payne said that when offered a choice among the big three, customers often favor Microsoft. "There's a perception we deal with that Oracle and [IBM] 'nickel and dime' you with modules and other things that have to get added unexpectedly to finish the job."

Another barrier to adoption, Payne said, is the perceived cost of the data-

functionality for their database products.

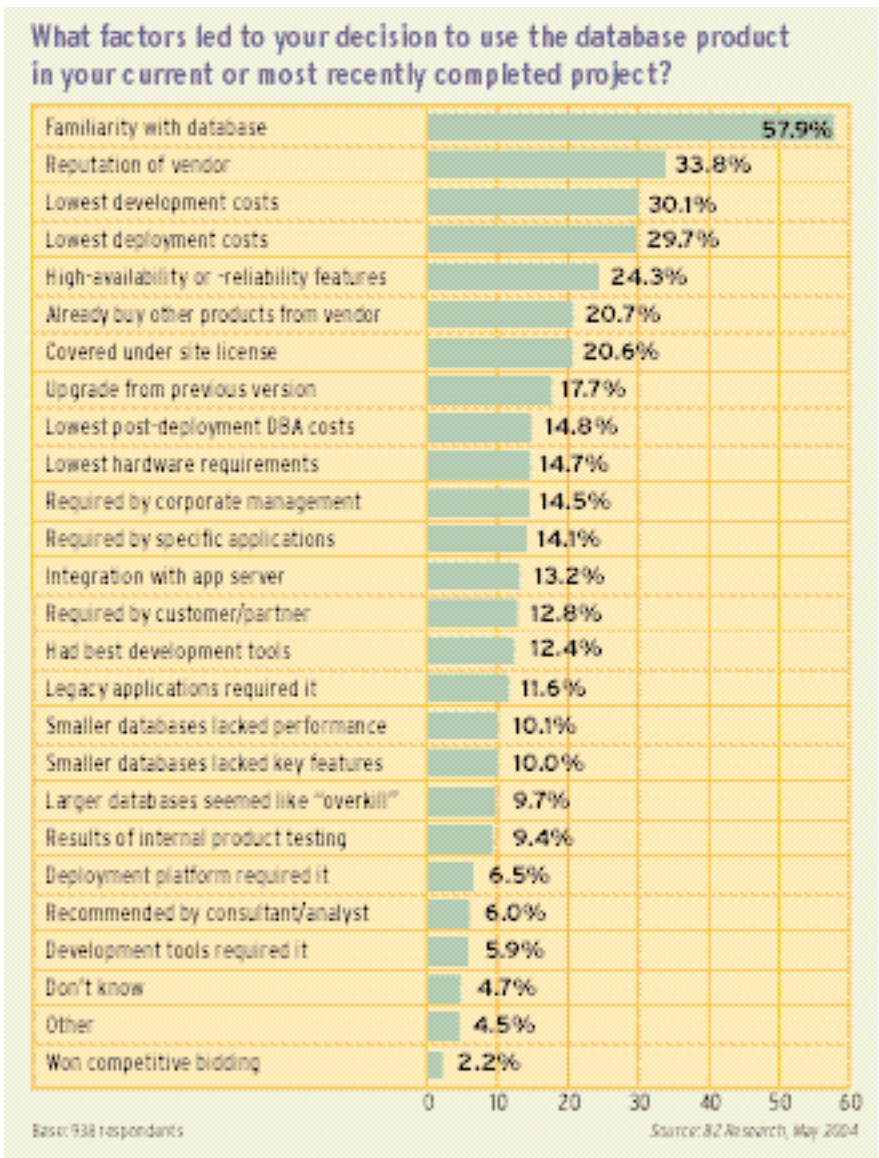
IBM also offers development-tool plug-ins for DB2 that enable developers to use its WebSphere Studio, Microsoft's Visual Studio and Visual Basic, Borland's Kylix, C#Builder and C++Builder as well as Eclipse.

Marshall Payne, co-founder of database consultancy GeoNorth LLC, which specializes in geographic information systems (GIS) and other spatial systems, said that while the big three kept up with advances in data types, others have not. "We used to do a lot of business with Sybase," he said. "But when we started getting heavy into GIS, Oracle, IBM and Microsoft kept up with the trend to store spatial and geometric information in the database, and away from a file system."

But Sybase Corp. did not, Payne said, and "Sybase took a nosedive in terms of market share."

Tom Traubitz, senior group product marketing manager of Sybase's enterprise data management products, said that for its part, Sybase addresses most specialty data needs through extensions for its Adaptive Server Enterprise database engine built by third-party developers. "We've been offering a geospacial extension for ASE through Boeing Autometric since about 1994, and we use Verity for enhanced full-text search." XML is native to ASE, he added. The company offers no audio or video storage capability, he said.

Though Traubitz conceded that Sybase has lost market share in recent years, he attributed the loss to growth of packaged database applications versus custom applications. "Sybase tends to specialize in high-performance custom applications, so our market segment has not grown as fast as others, and that's reflected in the market share. But Sybase has been profitable for the past 25 consecutive quarters. And that's the really important thing." ▮

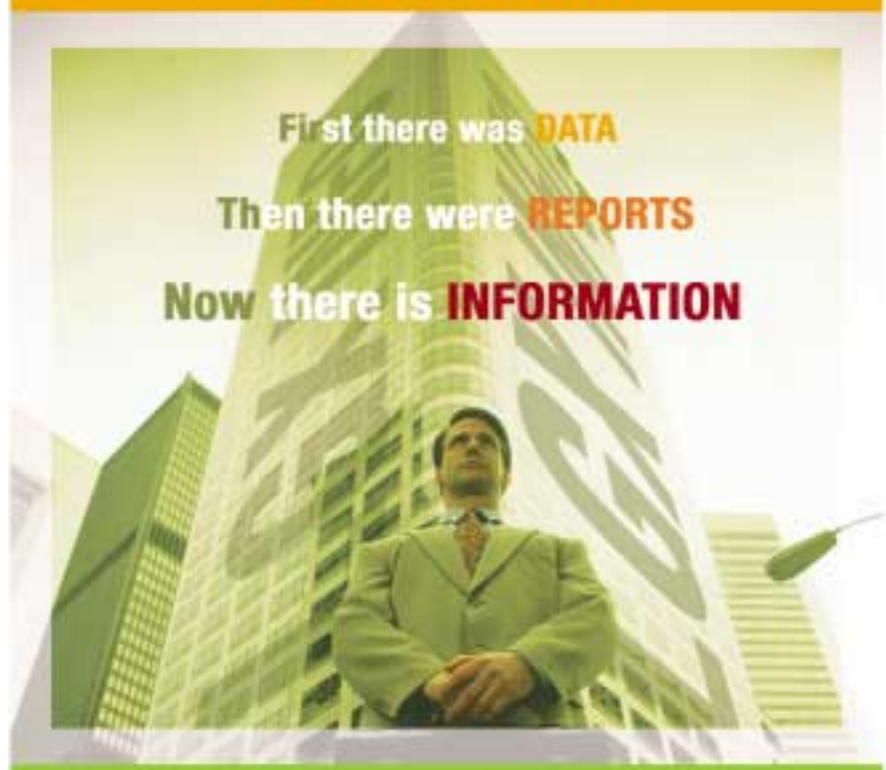


base administrator. "A trained Oracle DBA usually commands a higher salary" than his SQL Server counterpart, he said. There's also an expectation within companies that they may not be able to attract a high-end Oracle DBA because of the reduction in pay that person will be forced to accept, he added.

Claiming less administration than competitors among its differentiators is Sybase Inc. with its Adaptive Server Enterprise, which starts at US$1,495 for five users. Sybase says ASE's main benefit is its ability to process queries on highly dynamic data. "Sybase ASE has a single multithreaded kernel that enables us to handle problems where there's a

► continued on page 30

Go Beyond Reporting to Information with
LGX Info



Your organization can transform data into useful information to make better decisions more quickly with:
- Reporting Dashboards
- Reporting Applications Complete with Workflow
- Scheduled Reports and Report Delivery
- Interactive Analyzer to Slice and Dice Your Data on the Fly NEW!

- **Super Charged Web-Based Reporting** - It all starts here with a great web-based reporting system with all the great features you would expect like drill through and cross tab reports.
- **Reporting Dashboards** - Give your decision makers a graphical look at information so they can get the pulse of your organization in a moment.
- **Interactive Slice and Dice** - Analyze your data on the fly with the ability to drop and drag data elements with a click to get a new graphical view of your data.
- **Information Applications** - A report is no longer the end of the story. Now you can extend a report to an Information Application with no outside development tools. Trigger processes or events and even create a workflow based on your report.
- **Report Scheduling and Delivery** - As information delivery becomes more critical you need to automate report creation and delivery to key decision makers. Even run a report and trigger an alert based on thresholds.
- **Robust Security** - LGX Info features a complex security model down to the record level that can integrate with your current security model via a number of methods.
- **.NET Scalability** - This enterprise ready platform leverages .NET to offer the scalability to meet your infrastructure needs.

LogiXML™
DEVELOPMENT PRODUCTIVITY. IT'S ELEMENTAL.

7900 Westpark Drive
Suite T107
McLean, VA 22102
1.888.LOGIXML
www.logixml.com

For more information, go to: http://www.logixml.com/lgxinfo

Enterprise Databases: Mission-Critical Commodities

◂ continued from page 29

very great change rate in the data," said Tom Traubitz, senior group product marketing manager of Sybase's enterprise data management products.

"Many of our customers can't look at an image that's 10 minutes old, because in many cases, that's too old," Traubitz continued, citing securities trading and military intelligence applications as examples. "These are applications where you have to look at the data as it's changing and make decisions on that changed data right then and there."

Mike Paola, senior group product manager for Sybase's SQL Anywhere line of application-specific and mobile database development tools, said that companies with investments in a mixture of database products can benefit from iAnywhere's Synchronization Server. "Let's say you want to use your SQL database on laptops. We can synchronize directly with back-end databases from Microsoft, Oracle and IBM." Mobile solutions from those companies, he said, "are typically vendor-specific unless you put in a second-tier staging database."

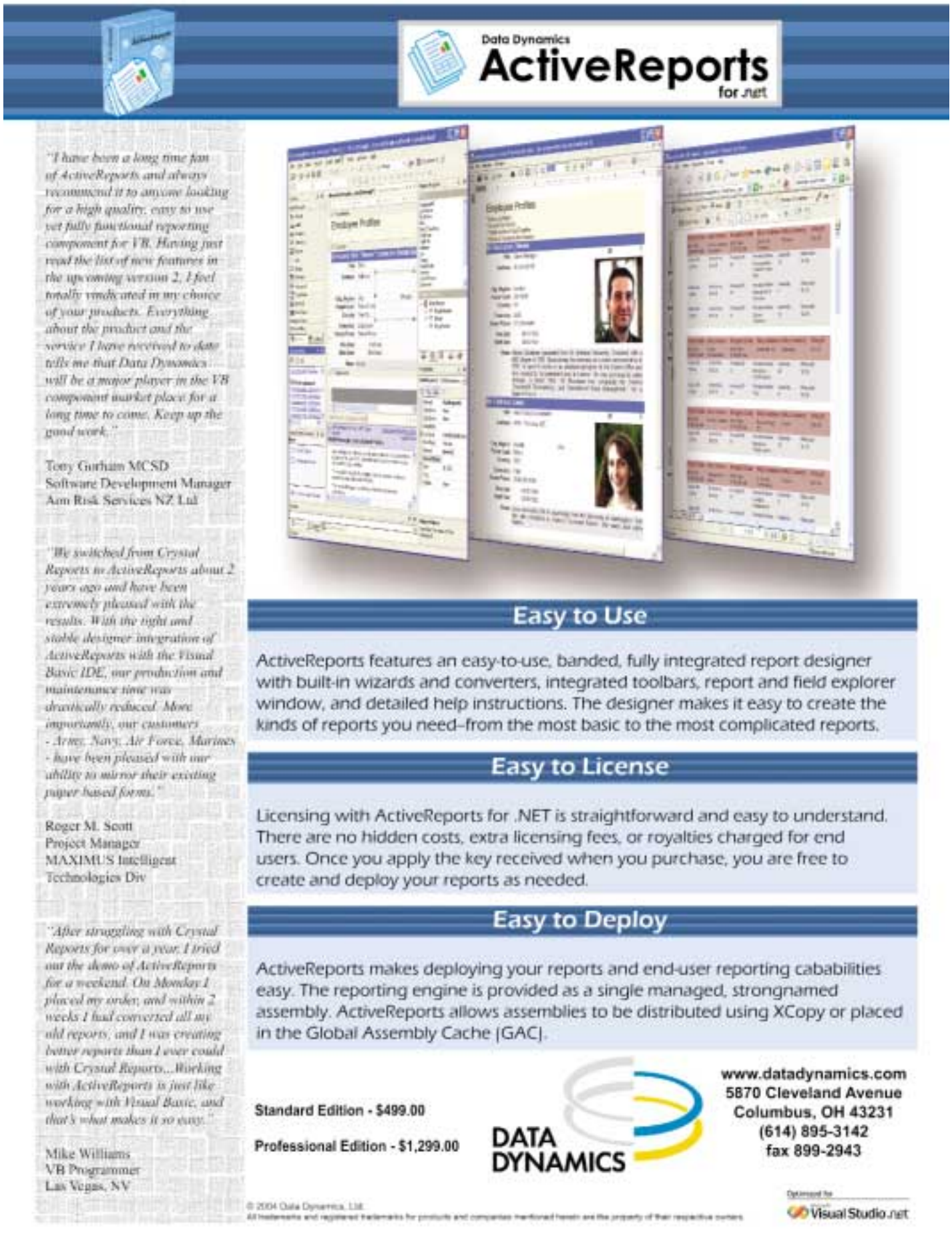
NO TIME FOR FEATURE BLOAT

Whether real or imagined, another perception is that vendors increase features to justify maintenance contracts. "Oracle can provide a five-page list of features we don't have and say that's why you should buy Oracle," said MySQL's Urlocker, citing Oracle's grid capabilities for emphasis. "But we look at that and say that's why you should buy MySQL, because you often don't need those features, and who in IT has time to look at them all?"

Urlocker asserted that software vendors across the industry add new features to justify their maintenance charges. "Sometimes those features are good, but there's a cost to that feature bloat in terms of complexity and expertise required to manage it. Developers are just trying to get their applications up and running with a minimum of fuss and complexity."

Defending its regimented update cycle is PointBase Inc., which revs its all-Java SQL databases every four months. "That allows us to incrementally improve the product on a regular basis," said Alec Beaton, technical support manager at PointBase, a division of DataMirror Mobile Solutions Inc. "Also, if you need a new feature or have a serious problem that can only be fixed in a new release, you don't have to wait a year; it's four months at most."

Again defending the open-source paradigm, Urlocker described MySQL's bug reporting process. "When people report a defect, they often identify the line and the module so we can validate and correct it immediately. If you send a bug to a large software company, you sometimes never hear from them. It's nice to know that if you do find a bug, you have the freedom to fix it yourself." ▮



New in RELEASE 4:

XML to Database mapping

EDI to XML and Database mapping

Custom XSLT libraries

Instant output preview

Next Stop, mapforce 2004!

Make your way to the Altova booth at JavaOne for a live demo.

xmlspy 2004 · mapforce 2004 · authentic 2004 · stylevision 2004

*Give your data direction with **mapforce™** 2004, the premier XML/DB/EDI mapping tool from Altova! **mapforce** 2004 is an award winning, visual data mapping utility that auto-generates custom mapping code in multiple output languages, including XSLT, Java, C++ and C#. With the power to map any combination of XML, Database and EDI into XML and/or Databases, **mapforce** 2004 is the definitive tool for data integration and information leverage.* ***Download mapforce™ 2004 today: www.altova.com***

ALTOVA®

www.altova.com

All other trademarks are the property of their respective owners.

EDITORIAL

Standards Matter

Thanks to generally peaceful relations between genuine standards organizations, such as the World Wide Web Consortium, and such vendor consortia as OASIS, the Web Services Interoperability Forum and the Java Community Process, Web services are on the cusp of becoming broadly useful and trustworthy. But they're not there yet.

The original specifications at the heart of what's now called Web services—XML, SOAP, WSDL and UDDI—were little more than a beginning. While they offered the seeds of a way to seamlessly transfer data and invoke remote procedures between heterogeneous computing environments, they fell far short of being deployable beyond small, tightly controlled conditions.

Those four cornerstone specs didn't provision security, wouldn't handle multistep transactions, didn't allow for active management and exception handling, and couldn't scale. But with them, the W3C paved the way for the future.

Enter the vendors, and numerous vendor consortia. The profit motive is a strong one: Companies including BEA, IBM, Microsoft and Oracle saw the commercial potential in Web services, and through unilateral, bilateral, trilateral and other genuinely collaborative efforts, plus a new emphasis on compliance testing, have been extending Web services beyond academia to a truly commercial—and deployable—set of communications protocols.

Many other interoperable communications protocols, of course, follow a similar path, where vendor consortia complete the work of noncommercial standards bodies, and thereby allow a nascent technology to become broadly useful and trusted by ISVs, IHVs and consumers.

Take Wi-Fi. The IEEE approved a number of specifications in the 802 (Ethernet) family to cover local-area wireless within its 802.11 subgroup. The "b" specification developed by that working group, which covered 11 megabit communications in the 2.4GHz radio band, offered tremendous promise but contained the potential for incompatible vendor implementations.

That's where a vendor group founded in 1999, the Wireless Ethernet Compatibility Alliance, came in and offered up a brand name, Wi-Fi, that indicated a specific interpretation of those standards, plus a rigorous test procedure that ensured that branded devices would work with one another in the field. (WECA was renamed the Wi-Fi Alliance in 2002.) Thanks to these efforts, Wi-Fi has become ubiquitous. The lesson: The IEEE standard alone wasn't enough.

The same will be true of Web services. Standards created by the W3C, and additional specs layered on top of them by OASIS, the JCP and ad hoc vendor working groups, won't be enough to ensure that Web services are broadly interoperable. Certainly, unilateral vendor extensions to the standards, such as those most commonly offered up by BEA and Microsoft, may provide those particular companies with short-term advantages, but will do little to inspire developer and IT confidence in the trustworthiness of Web services.

We have the foundation, and a set of excellent extensions—most notably the WS-Security family. What we need are extended interoperability tests, and perhaps stronger branding to indicate specific compatibility levels, in order to bring Web services to the next level. Developing those—rather than building yet another WS-xxx spec—should be the industry's highest priority. ▮

Fighting the Last War

Shifting our IT projects to offshore developers in India, China, Russia, etc., has become a hot topic of debate lately. The domestic information technology industry sees it as a prescription for job loss. Free marketers see it as an expression of the inevitable difference in salary rates in other parts of the world. Business people see it as a way to reduce costs: Why not hire a programmer for US$30,000 a year in India rather than $150,000 a year in Silicon Valley?

In the midst of these debates is a discussion of what should be done about this. Should we restrict offshore outsourcing? Should we require companies to announce their intentions in advance, similar to how German companies are required to announce plant closures months and months ahead of time? Should we say, as Steve Ballmer of Microsoft said recently, that the solution is in supply and demand and that if we merely had a greater supply of domestic programmers, the price would decline to something like parity with offshore rates.

All this discussion misses the point entirely. What offshore development can do effectively and productively are exactly the kinds of things that we shouldn't be doing at all.

What Offshore Development Is Good At. Offshore development works best when there is a very clear spec and means of testing against the spec, and a considerable amount of development effort to be expended in developing the product. This scenario was the norm through most of the 1980s and 1990s, and during that time many companies had success with offshore outsourcing of development. Those who have not had success have ascribed it to cultural and communication problems, a lack of commonality of goals, etc. But there have been enough successes that we can say that the offshore model works in those circumstances.

Perhaps one of the clearest examples of where it works is where an application must be rewritten in a new language for technological constraints and no new functionality needs to be added.

Where Offshore Development Doesn't Work. Conversely, many companies have found that offshore development does not work when the requirements are not well known and are evolving as the project evolves. Software companies are finding what manufacturing companies found in the 1980s and 1990s—that some products certainly can be made more cheaply overseas. However, there are many situations in which the time delay and the added barriers of communication from lack of proximity, to say nothing of different cultural and even language backgrounds, make engineering change difficult and may make introducing new versions of products more expensive as many versions of the product may be in transit or in production at the foreign site.

The equivalent in the soft-

Letters to the Editor

REDUNDANCY

The answer to Larry O'Brien's dilemma in "Disgrace Under Pressure" [May 1, page 37 or at www.sdtimes.com/cols/winwatch_101.htm] is redundancy. I've worked for years on mission-critical applications where redundancy is used to build fault-tolerant systems that will not go down with a single failure. Actually, such systems are quite common in areas where failure is unacceptable, such as medical, defense or industrial automation systems. Granted, most businesses are not willing to pay for redundancy in the average desktop PC.

My belief is that far too much software does not even try to deal with faults. Many programs are written to throw an exception and shut down after any fault, including faults that should not be critical at all. Does a program need to crash if it is reading a file that has a single bad block in it? Perhaps the data that is needed is in a good block. Does a program necessarily need to crash if a DLL cannot be found? Possibly the functions in the DLL are not critical. Should a program fail if it tries to write a file and encounters a bad block? Why couldn't the operating system mark the block as bad and find another one to use? And of course the problem with "throwing exceptions" when an error, or worse a warning, is encountered is that far too many programmers do not attempt to catch the exceptions. In their defense, it's not always clear what procedure might throw an exception or what type of exception might be thrown, and for this reason I've always preferred methodologies that return error codes instead of throwing exceptions. Still, I've heard far too many times: "Don't worry, that will never happen."

It takes a lot of time to implement good fault handling, and many software companies and teams simply do not want to spend the time and money on it. Except in mission-critical or life-and-death applications, the market has not demanded it. One would have thought that scuba diving equipment would qualify as life and death.

Mark Reineck
President
Nth Generation

RIDDLE ME THIS

If the wars were only between Microsoft and Sun, your editorial ["Microsoft Wins the Java Wars," May 1, page 32, or at www.sdtimes.com/opinions/opinion_101.htm] may be accurate. How many of the Fortune 1000 companies run the majority of their business on platforms of either company?

Clue: Edward J. Correia's front page article. Another: Which company's gross revenues are roughly three times the combined revenues of both companies?

Here's another question to test your industry acumen: Which is the world's most popular programming language today for new software development?

The clue to this is also in SD Times' May 1 issue.

Bruce E. Högman
EDS Corp., CESC Miramar

ware world would be, in its most extreme case, agile development. In agile development, we recognize that the crafting of the solution is changing the perception of what's needed as well as what's possible, which in turn changes not only the requirements but also the product. It is much more difficult, although not impossible, to get an agile development team working across a half-dozen time zones.

We Shouldn't Be Doing What We're Sending Overseas. There are very few cases where custom development of entirely new applications and procedural code is justified. Certainly, we should not be undertaking the megascale projects that we did in the 1990s. We have proven, I think, beyond a shadow of a doubt, that the larger the scale of the project, the more likely it is to fail, regardless of how much or how little you're paying per hour to the people who are attempting to complete it.

But what if you have an old application that works perfectly fine and is written in a language that has become obsolete and must be replaced? Certainly, that would be a candidate for offshore development. However, there is plenty of technology available, called legacy understanding or legacy re-engineering technology, that will allow you to parse all the existing code and create a reference model that represents the design of the existing system. This reference model can then be expressed in a modern language. More interestingly, if there are design enhancements to be contemplated, it's at this level that we can most productively make them. Sending the system offshore will merely take longer and deliver a new set of legacy code in a modern language.

Perhaps you have a legitimate need for a new custom application. It would be unusual to find a new application development project that was not a good candidate for model-driven development. In model-driven development, the designers and requirements-setters create very explicit and formal models of the resulting application. The application is then created mostly automatically from the design model. In some cases, code is generated from the design model; in other cases, the design model executes interactively as the program runs. In any event, there's very little need for additional programming.

Perhaps you have a large number of systems that need to be integrated and the integration itself is a large programming effort. In that case, you'd be wise to adopt a service-oriented architecture and/or some message-driven middleware, where you express the meaning of the interface of each application in what is called a canonical format that can be understood by all other applications. The primary effort is in designing and defining these canonical formats, and a small but important part of the effort is in translating the individual applications to the canonical. Again, by far, most of the effort is in the requirements and design, and tools can greatly aid development of the adapters.

IT'S POINTLESS

The whole debate about offshore development is largely pointless. The projects that are being argued about, as to whether they should go offshore or not, should for the most part not be done at all, or be done so drastically differently that the economics of offshore development would not play a significant role.

The unfortunate implication of this assessment is that while it may make offshore development moot and may end the current debate without another shot being fired, it really does nothing to aid the plight of the underemployed domestic IT professional. The implication of this is clear: We will need far fewer application programmers than we've had at any time in the past 20 years. That's the bad news.

The good news is that almost all of our existing applications need to be redeveloped and redeployed. They are woefully inadequate for our current needs. They are fabulously inflexible, and most can be replaced for their current maintenance cost, which is prohibitive. When you contemplate the scale of systems that can be economically replaced, you'll realize that this could easily take up all the slack in the oversupply of developers provided they learn the new skills that are needed, which primarily include business analysis, requirements and what is called "programming in the large"—in other words, assembling new solutions from reusable components and existing services. ■

David McComb is president of Semantic Arts Inc.

PASSING THE TEST

Excellent story! We need more of this type of quality writing in SD Times ["Testing 101: AWOL on the College Campus," April 15, page 1, or at www.sdtimes.com/news/100/story2.htm]. Would also appreciate a few how-to articles occasionally on some aspect of testing and software design. How about the high-level steps necessary to implement an effective test organization? Or the steps to get testing going in a local college? Thanks much.

George Hoffer

CAREFUL WITH XML

I think it's about time that someone is indicating that much of the "use" of XML is actually "abuse" ["The Other Side of XML," April 15, page 35, or at www.sdtimes.com/cols/integrationwatch_100.htm].

XML is not appropriate for everything.

Roy W Fileger

RISKY BUSINESS

So just say it: ALL AMERICANS are overpaid in comparison to the rest of the world. ["Are U.S. Developers at Risk?" April 15, page 30, or at www.sdtimes.com/news/100/special2.htm]. An important point to me is if you have never seen a factory or built some code, you are not as likely to continue to come up with innovations. All American workers cannot be "ignorant" (not stupid) upper-level managers. Upper-level managers who start in the trenches may not be the best business persons, but they add significant value to the corporation that a pure business point of view cannot.

Lissa Klein
SBC

CORRECTION

The Velosity real-time operating system from Green Hills Software Inc. operates in about 3KB of RAM. A story in the May 1 issue incorrectly stated the RAM requirement.

Letters to SD Times should include the writer's name, company affiliation and contact information. Letters become the property of BZ Media and may be edited. Send to feedback@bzmedia.com, or fax to +1-516-922-1822. Please mark all correspondence as Letters to the Editor.

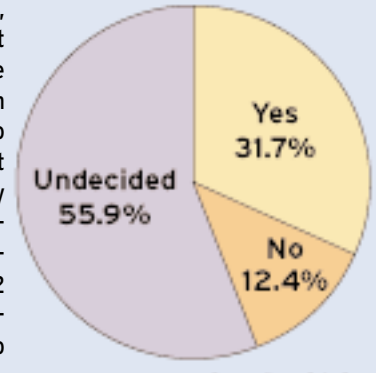
DATA WATCH

Do Developers Plan to Adopt .NET Alternatives?

Most developers have a "wait and see" attitude toward two forthcoming open-source alternatives to Microsoft's .NET runtime and development framework. Likely to be available first is Novell's Mono (www.go-mono.com), a ".NET for Linux" set for a midyear release. Also in the works but with no set release date is Portable.NET (www.southern-storm.com.au), a portion of the Free Software Foundation's DotGNU project analogous to Mono that also will run on Mac OS X, Unix and Windows. This portion of the code is being maintained by Southern Storm Pty Ltd., its original developer.

But are developers willing to adopt these technologies once released? According to Evans Data Corp.'s Spring 2004 Linux Development Survey, published in March, 55 percent are undecided, while about 12 percent said they would not adopt them.

It is interesting to note, according to Evans, that in prior surveys, where respondents were given only yes or no choices to the same question, about 55 percent indicated they would adopt Mono or DotGNU. Affirmative responses dropped to about 32 percent when an "undecided" option was added to the survey.



Source: Evans Data Corp.
www.evansdata.com

SD Times SOFTWARE DEVELOPMENT

Software Development Times
June 1, 2004 – Issue No. 103

Publisher
Ted Bahr
+1-516-922-2101 x101 • ted@bzmedia.com

Editor-in-Chief
Alan Zeichick
+1-650-359-4763 • alan@bzmedia.com

Editor
David Rubinstein
+1-516-922-2101 x105 • drubinstein@bzmedia.com

Senior News Editors
Edward J. Correia
+1-516-922-2101 x100 • ecorreia@bzmedia.com
Jennifer deJong
jdejong@bzmedia.com

Associate News Editor
Yvonne L. Lee
+1-408-255-1153 • ylee@bzmedia.com

Copy Chief
Patricia Sarica
+1-516-922-2101 x106 • psarica@bzmedia.com

Art Director
Mara Leonardi
+1-516-922-2101 x109 • mleonardi@bzmedia.com

Art/Production Specialist
LuAnn Palazzo
+1-516-922-2101 x116 • lpalazzo@bzmedia.com

Columnists
Andrew Binstock
abinstock@pacificdataworks.com
Allen Holub
aholub@holub.com
Larry O'Brien
larryo@thinkingin.net

Contributing Writers
Alyson Behr
abehr@behrcomm.com
Lisa Morgan
lisamorgan@mindspring.com
Esther Schindler
esther@bitranch.com
Steven J. Vaughan-Nichols
sjvn@vna1.com

Advertising Sales Representatives
Southwest U.S.
Julie Fountain
+1-831-476-1716 • jfountain@bzmedia.com

Northeast/North Central U.S./Canada
David Karp
+1-516-922-5253 • dkarp@bzmedia.com

Northwest U.S./Canada
Paula F. Miller
+1-925-831-3803 • pmiller@bzmedia.com

Southeast U.S./Europe
Jonathan Sawyer
+1-603-924-4489 • jsawyer@bzmedia.com

Director of Circulation & Manufacturing
Rebecca Pappas
+1-516-922-1818 • rpappas@bzmedia.com

Circulation Assistant
Advertising Traffic
Phyllis Oakes
+1-516-922-2287 • poakes@bzmedia.com

Office Manager/Marketing
Cathy Zimmermann
+1-516-922-2101 x108 • czimmermann@bzmedia.com

Customer Service/Subscriptions
+1-866-254-0110 • service@bzmedia.com

Accounting
Viena Isaray
accounting@bzmedia.com

Article Reprints
Lisa Abelson • Lisa Abelson & Co.
+1-516-379-7097 • fax +1-516-379-3603
lisa@abelsonreprints.com

BZ Media
BPA

President
Ted Bahr
Executive Vice President
Alan Zeichick

BZ Media LLC
2 East Main Street
Oyster Bay, NY 11771
+1-516-922-2101 • fax +1-516-922-1822
www.bzmedia.com • info@bzmedia.com

JUST YOU AND 1,000,000 OF YOUR CLOSEST FRIENDS

www.codeproject.com

The Code Project has everything you need to migrate to Visual Studio .NET 2003. Visit www.codeproject.com and find out why we're your Visual Studio .NET 2003 Homepage. **The Code Project, the smart site.**

premium sponsors:

Dundas Data Visualization

windows:: developer

msdn magazine

Spam Threatens the Way We Work

Plenty of ink has been spent on what we could or should do about spam. Most of it has been wasted based on the amount of unwanted e-mail in my inbox. The U.S. government's effort to CAN-SPAM so far has resulted in arrest warrants for four spammers—one of which is in custody. Meanwhile, spam volume has increased by 40 percent.

What disturbs me more, though, is the increasingly limited use that e-mail now has because spammers have ruined the medium. For example, you can no longer blithely assume your message was received simply because you sent it. (Actually, you never could make this assumption, but at one time you could be pretty close to sure.)

Multiple obstacles diminish the certainty of safe arrival. The first, of course, are spam filters. Depending on whom you're writing to, all sorts of words deemed offensive can force your message to be rerouted to "possible spam" folders where you hope it will distinguish itself from several thousand messages hawking impotence cures and weight loss schemes. If you're on a spam "white" list (a sender known to be safe), you're fine.

But what do you do if you're e-mailing your long-lost buddy or ex-girlfriend whom you haven't communicated with in years? Alex Neihaus, who runs marketing at Accurev, a tools vendor, points out perspicaciously that this specific problem will force people to come out from behind the keyboard and call people via telephone, like we all used to do in the old days. This warm, repersonalized world, however, is really just a way of recognizing the substantial breakdown of e-mail.

Let's take it one step further. Is there any possible way that you could engage someone who does not have you on their white list on the topic of, say, which works better: Viagra or Levitra? While I realize not one of our SD Times' readers would need this information, surely a close friend might. And yet no e-mail containing either word or a disguised spelling could ever pass through spam guards.

Integration Watch

Finally, there is the problem of domain names. Those that contain the successive letters s-e-x are marked in many systems as spam. So if American Express had followed the lead of Diner's Club and called itself American's Express, its domain name—americansexpress.com—would preclude communication with its customers. If you registered online for Amex, you could never receive confirmation of your account. Auto-parts retailer, PartsExpress.com, recently suffered this rejection from spam filters, and it will soon change its name to the less desirable Parts-Express.com.

Attachments are a different kind of complication made possible by virus writers and spyware vendors who are spammers, too. Today, if you want to send a .zip file with an executable attachment, you will find your path blocked by all forms of silent software. The silent part is particularly vexatious. The filters, especially at large corporations, simply remove the message. They do not alert the sender that the message was refused, nor do they alert the intended receiver that the message was quashed.

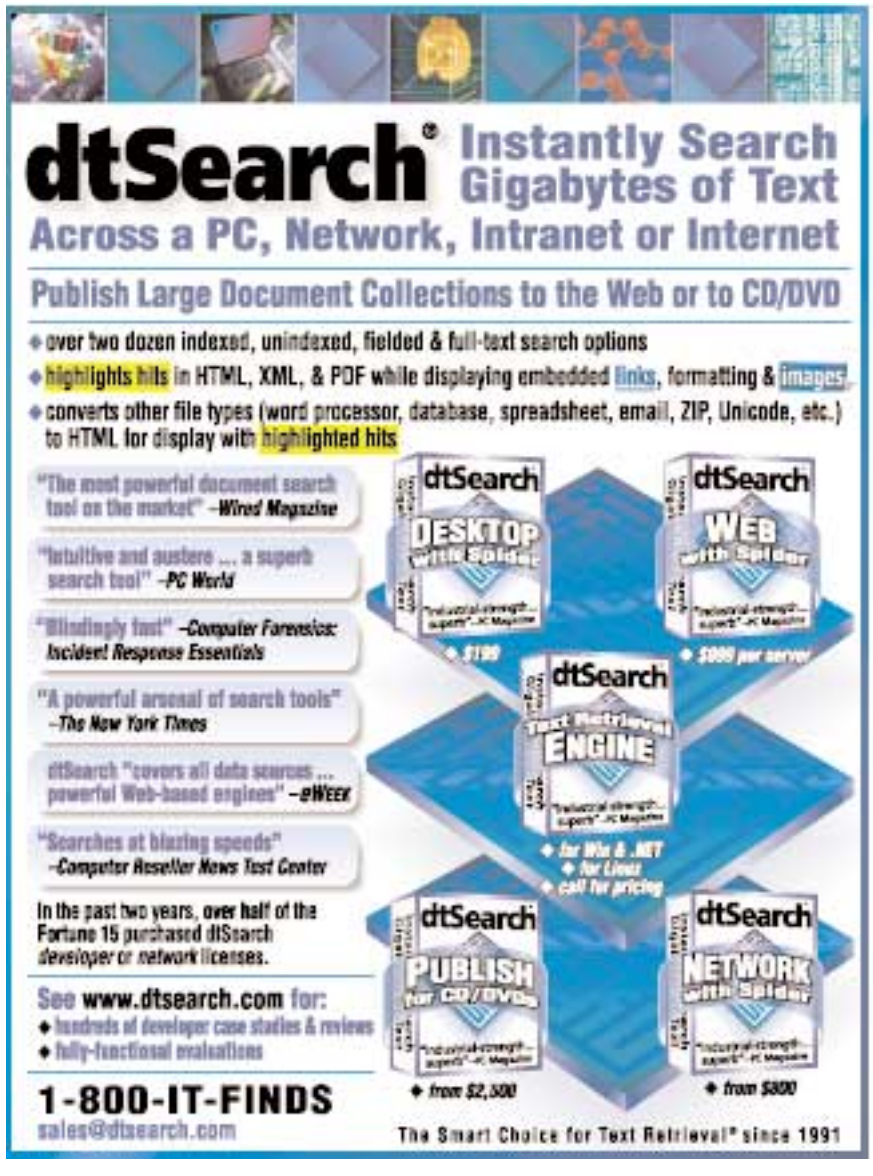
Quashing a message should be an extreme measure. The addressee should, by all rights, have the option of accepting the message, attachments and all. But this courtesy, as well as the once-common alerts of nondelivery, are a nearly extinct tradition. On a similar path to disappearance are the request for notice of delivery and, slightly less rare, notice that the reader has opened the e-mail.

So, if you must send attachments, you have essentially two choices: Keep pestering your addressee to see if any of your multiple resends have made it through, or post the files on a private FTP site and have the addressee download them. As ever, there are ways to circumvent the problem, but each end-run affirms with plangent voice that e-mail is no longer a viable way for people or even machines to communicate with us.

I do not think legislative proposals will work, because the cost of prosecution of so many low-level criminals is far too great to make it worthwhile. In fact, according to MessageLabs, a company that sells anti-spam software, spam volume has grown by 30 percent since the CAN-SPAM act went into effect in the United States. A better solution, I believe, is to make spam unattractive by charging a small amount—a penny a message—for all messages beyond the first 30 e-mails in a day. Customer-oriented firms with large opt-in mailbases could use RSS or get a lower rate that is still high enough to prevent spammers from firing up the box.

Other solutions have been put forth, but many require creating a different Internet (unlikely soon) or new laws (too expensive to enforce). Whatever the means, businesses and ISPs must soon come together and decide on an effective solution that they will implement with all due haste. Otherwise, we risk the loss of this most important medium. ▮

Andrew Binstock is the principal analyst at Pacific Data Works LLC.



June 28–
July 1, 2004
Moscone Center
San Francisco, CA

Go Anywhere You Want with Java™ Technology

It all starts at the JavaOne℠ conference.

Java™ technology is everywhere, improving the digital experience for everyone. It all starts at the JavaOne℠ conference, your source for cutting-edge knowledge and proven solutions. You'll learn how to tap into the full power of the Java platform: platform independence; compatibility with and between editions; open toolsets and technologies supported by a global developer community.

The JavaOne conference offers hundreds of in-depth technical sessions in:

Topic 1—The Foundations: Core J2SE™ Technologies
Topic 2—Core Enterprise Technologies
Topic 3—Java™ Technology on the Desktop
Topic 4—Java Technology for the Web
Topic 5—Java Technology for Mobility
Topic 6—Dissecting the Implementation: Solutions
Topic 7—Intriguing and Unexpected: "New and Cool"

JavaOne™

Sun's 2004 Worldwide Java Developer Conference℠

Benefit from four days of in-depth training and networking with the foremost leaders and creators of Java™ technology in:

- Enterprise
- Mobility
- Web Services
- Desktop

Save $100! Register by June 27, 2004, and receive $100 off the full Conference package. Priority code: ADAYZKND

Register at
java.sun.com/javaone/sf

Java™

Sponsored by
Sun microsystems

Produced by
MediaLive® INTERNATIONAL

Microsoft Doesn't Hold All the Cards

Windows & .NET Watch

Perhaps you've seen the show "World Poker Tour," which every week shows the final table of a high-stakes poker tournament. It's a great show that cleverly stokes the illusion that the viewer could outplay the best poker players in the world. It does this by showing the home viewer the hidden cards of all the players, which makes second-guessing the play just a tad easier.

After a few weeks of viewing, a pattern becomes clear. The final table usually has a predictable composition: There are a few elite tournament players who get to the final tables time and time again, several representatives of a larger cadre of professionals who probably end up in the money but not at the final table of most tournaments they enter, and just about every week there's a seat or two held by "amateurs," who are good poker players, but for whom luck almost certainly played a major role in getting to the table.

Now, I'm not saying that the amateurs are *just* lucky. For all the "two minutes to learn" premise of the show, it isn't trivial to calculate evolving odds on pots valued at hundreds of thousands of dollars without the slightest "tell" of body language. And week after week, it is shown that a talented amateur with good cards can beat the most fearsome professional with bad cards.

Which brings us to Microsoft.

Microsoft is like one of the tournament pros who appear at the final poker table time and again—Phil Hellmuth, for example, a notorious trash-talking egotist whose behavior at the table is calculated to intimidate and irritate people into poor play (www.philhellmuth.com). Yes, if you're considering "entering the tournament," you should have an idea of how to play when this fearsome competitor has you in the sights. If it comes down to you and this competitor, you'll need lots of luck to come out on top. If, on the other hand, your goal is simply to end up "in the money," you're nuts to let fear keep you out of the game. Absolutely nuts.

Microsoft has revealed its cards. Microsoft is going to "play" Whidbey (Visual Studio 2005), Yukon (SQL Server 2005), Longhorn (still just Longhorn, for now) and Office. If you make, say, a 3D modeling tool, you will face fierce competition for the pot, but it won't be from Redmond. Microsoft has a lot of chips, and it's true that it *could* apply those chips to funding a skunkworks project that will fundamentally redefine application development, or data storage, or word processing or what-have-you. Maybe there's even a hint of something along those lines on the Microsoft Research Web site. But you can bet your last dime that Microsoft is not going to do anything to undermine its core products.

This gives the entrepreneurial software developer or company a tremendous advantage, the likes of which haven't been available for a decade or more. New Office suite products like InfoPath and OneNote were unknowns before they came out, and it would have been unnerving to be developing software for standardizing forms or note-taking (although the first versions of both products followed Microsoft's standard practice of having solid but not spectacular features in a highly polished user interface). Today, though, the field is clear across the board. Even in areas where Microsoft is definitely "in the game," such as with the Tablet PC, entrepreneurs can know that they have two years or more in which to enter the marketplace and establish their products.

Of course, this is not to say that Microsoft won't act like a poker pro. It will hint that it might Assimilate You, it will hint that it might Crush You Like a Bug. It will move its chips toward you and see if you sweat or smile. And you know what it will do if you don't blink? It will offer to buy you out of the tournament. They never show such things on the "World Poker Tour," but it's a part of many real tournaments: Players evaluate their expected value and agree to split the prize money without subjecting themselves to the vagaries of chance.

Fantasize all you want about spurning that offer and going all-in against Redmond. You know Microsoft's cards. You know its temperament. The challenge is that as a programmer you don't get dealt cards, you build them, and there's never enough time to build pocket aces. Still, if you have the talent, the resources and, yes, the luck, the chance to end up in the money is the best it's been in a long time. Ante up. ▮

Larry O'Brien is an independent technology consultant and analyst, and the founding editor of Software Development Magazine.

When Hiring, Smarts Beat Skill Lists

Java Watch

During dinner after the last day of a five-day training session on object-oriented design, the manager who'd hired me posed an interesting question: How do you identify above-average Java programmers in a job interview?

To my mind, that's the most important question that any competent manager can ask. The days of the manager doing the work while the peons do his bidding are long past. The best work is done by a team of great programmers, with their managers making it possible for them to do nothing but program. Finding an exceptional Java programmer—someone who can work 10 times more effectively than an average programmer—is not easy, but it's essential.

Nonetheless, it's amazing to me how bad a job most companies do when they hire. I occasionally log in to the big job boards just to see what skills are hot at the moment, and I'm always shocked by the ads that I see. First, the ads often consist of marketing hype that doesn't accurately describe the work to be done. Since competent programmers typically want to know what they're getting into, that fact alone probably weeds out scads of qualified candidates.

Next come the laundry lists: compendiums of random, often mutually exclusive skills. I just saw an ad requiring Linux, Unix and Windows system administration, in-depth knowledge of Oracle, SQL Server and Sybase, mastery of C++, Java and Visual Basic, and an in-depth understanding of WebSphere, Apache/Tomcat and WebLogic.

This ad tells me a lot about the company: They don't know what they're building or how they're going to build it.

It is sometimes the case that you have to hire before you have a well-defined architecture, but in that case you need to be looking for smart people who can do quality design work, not a bunch of dilettantes who know a little of everything but can't do anything well. Some clown in HR will probably take this laundry list literally and weed out everyone who doesn't have the entire list on their resume, eliminating lots of excellent programmers who aren't willing to lie to get a job.

It doesn't matter if a candidate has written a kazillion EJBs, if they were all garbage. I'd much rather hire a smart programmer who knows both the core language and object-oriented design principles inside and out, but who has never written an EJB, than a marginal programmer who has written 200 of the things badly. More important, I want someone smart enough to recognize that I shouldn't be using EJBs at all if they're not appropriate, someone who can quickly pick up the technology necessary to implement an evolving system.

The laundry-list approach (especially when coupled with automated keyword scanning of a resume) just doesn't work.

So what does?

First, if you're not an excellent programmer, you won't be able to recognize one. Hire a consultant, if necessary, to do the vetting. Good consultants are expensive, but this is no place to pinch pennies.

Have a candidate bring in some code and any related design documents. Cut the interview short if you can't understand what the code does simply by reading it: Are variable and method names well chosen? Are comments present where they're needed (and absent where they're not)? Is the code well structured and formatted for readability?

Look for a solid understanding of the core language. Average Java programmers don't understand interfaces, inner classes or access privileges (they declare everything as `protected`). They don't understand when `extends` is appropriate and when it isn't.

Threading—which is central to every real production application—is typically a mystery to a marginal programmer. At minimum, your candidates should understand deadlock and how it happens. They should understand the synchronize statement thoroughly and how it affects both static and nonstatic objects.

Then comes the design can of worms. I personally believe that it's inappropriate to program a procedural system in an object-oriented language like Java. Object-oriented systems have, at their core, an interesting paradox: They're both more complex than procedural systems and easier to maintain.

Procedural systems written in object-oriented languages tend to have all the complexity of an object-oriented system without any of the maintenance advantages. I wouldn't even consider a candidate that didn't know how to design. They should know the Gang of Four design patterns cold, for example.

Can the candidate understand UML diagrams? Can they produce an Activity diagram from a couple of scenarios? Do they even know what a Use Case is? Do they understand dynamic modeling and the associated diagrams? Look at their code again. Someone who, by rote, makes the data fields of a class private, but provides a `getter` and `setter` method for every data field, does not understand basic object-oriented principles like data abstraction and implementation hiding. Is the `protected` keyword used correctly (that is, primarily for template methods)?

So that's a start. I don't have room, here, to cover more details, but I think you get the idea. Give up the laundry lists and start looking for real competence. The hiring decision is the most important one that a manager can make. ▮

Allen Holub is a leading architect, consultant and instructor in C/C++, Java and OO design. Reach him at www.holub.com.

Quid Pro Quovadx

The list of companies tarred by the brush of financial wrongdoing grows ever longer. Enron...Adelphia Communications…Tyco International...Computer Associates...Quovadx…

Quovadx? Yes, proving that greed and the pressure of hitting analyst and shareholder expectations are not the exclusive domain of Wall Street giants, the relatively small software company based in Englewood, Colo., joins a club that it should not have wanted to be a member of, to paraphrase Marx (the comedian, not the socialist).

Industry Watch

The company has had to postpone its annual shareholders meeting, which was set for June 3, and it was unable to file its 10-Q report of earnings for the period ending March 31 due to the finding of irregularities. For fiscal year 2003, the company had revenues of US$71.6 million and showed a net loss of $14.6 million, after losing a whopping $104.1 million in 2002 on revenues of $63.7 million.

Quovadx recently purchased Rogue Wave, which sells C/C++ components and Web services libraries. Its original business, now called the Enterprise Application division, sells applications and services into the health-care, financial services and telecommunications markets.

The CEOs of the larger companies have become household names as they have fallen from their lofty perches—Kenneth Lay, Dennis Kozlowski, Sanjay Kumar. At Quovadx, where the dollar amounts involved are too small to be sexy enough for the general media, the name of the CEO under whose watch Quovadx reported revenue it never received will not be widely known.

Quovadx also stands apart from the others through the forthrightness of acting president and CEO Harvey A. Wagner, who took over the reins after the investigations began and issued a press release on May 13 that offered great insight into how these things go wrong.

While CA candidly acknowledged it had some accounting issues—after the mainstream press got wind of the story—the company offered no details into what it was looking for in its own internal investigations. These details came out only after charges against several of the company's top officers were filed. Quovadx, on the other hand, appears to want to do the right thing. (Of course, the threat of sanctions and possible prosecution always makes companies want to do the right thing long after they've been doing the wrong things.)

In any case, the problems at Quovadx stem from a relationship it entered into with something called the Infotech Network Group, an outsourcing agent for companies based in India. According to the statements released by the company, it appears Quovadx agreed to pay about $2.5 million to Infotech under an outsourcing deal that Quovadx admits was merely an inducement to get Infotech to agree to purchase $14.1 million worth of software from Quovadx for resale to its clients.

Had the company done its due diligence, it would have known that much of the documentation Infotech presented was suspect at best. For starters, Infotech is not, nor has it ever been, a software distributor. Second, letters of credit it claimed to have with a bank in India have been shown to be nonexistent. Finally, letters Infotech provided to Quovadx—memoranda from state governments in India indicating they would buy software from Infotech—were not true commitments, and there are no assurances. Meanwhile Quovadx has never received payment from Infotech, and now does not expect to.

But Quovadx has paid Infotech almost $3 million under the terms of the outsourcing agreement. It now admits that some of those payments were made for the purpose of helping Infotech establish the letters of credit it would need to pay for the Quovadx software. And now the company says it is investigating other irregularities that don't have anything to do with the Infotech affair.

Very messy business indeed. Unfortunately, this is merely another ugly episode. How many more of them are going on today that we just haven't heard about yet? Plenty, I'm certain.

There are several roots to this problem. People are looking to the market to recoup the losses they suffered when the bubble burst as recession-ravaged interest rates remain low. Upper management remains overly greedy, believing they are "masters of the universe"—impervious to the laws and ethics that govern financial practices. It also stems from the fact that Wall Street's punishments for missing estimates are unduly harsh.

Last, it has to do with the Quovadxes of the world wanting to become bigger fish in their ponds, feeding growth through acquisition rather than innovation, needing to drive revenue and market share to keep investment dollars rolling in, to fund larger acquisitions and keep pace with growing expectations on Wall Street.

This system has gotten very screwed up. Sadly, I'm sure the story of Quovadx isn't the last of this genre to be told. ▮

David Rubinstein is editor of SD Times.

BUSINESS BRIEFS

Java application server vendor **JBoss Inc.** has received a US$10 million investment, including funds from **Intel Capital**, the venture arm of chip maker **Intel Corp.** Intel also has agreed to provide hardware and knowledge to help JBoss achieve Sun J2EE certification on Intel's Itanium and Xeon processors. Intel joins **Borland Software Corp.**, **Iona Technologies PLC**, **SchlumbergerSema**, **Sonic Software Corp.**, **Unisys Corp.** and **WebMethods Inc.** in JBoss' J2EE Certification Founders Program. They are providing JBoss with the staff and financial support necessary to complete Sun's test certification kit . . . Enterprise management solutions provider **BMC Software Inc.** will pay approximately US$239 million to acquire **Marimba Inc.**, a maker of change and configuration management software, in an all-cash deal. BMC president Bob Beauchamp said the acquisition will position the company at the fore of business service management solutions providers, covering service desk, change and asset management and client and server management . . . Business process management tool vendor **Intalio Inc.** has closed a US$11 million round of financing, led by **Cargill Ventures**. The funds will be used to extend worldwide sales and marketing programs as well as engineering and professional services. Deepak Malik, Cargill Ventures' managing director, joins Intalio's board . . . **ANT Ltd.** has received US$6 million from investors to expand its position in the home entertainment and consumer electronics market, including broadband, satellite and cable TV markets. Technology investor Richard Farleigh led the investment in the Cambridge, England-based company. ANT had success this year when its Fresco Lite browser was integrated in the set-top boxes of Germany's largest cable TV company . . . **Mercury Interactive Corp.** has created a new brand and advertising campaign, redesigned its Web site (www.mercury.com) and opened new headquarters. The new 250,000-square-foot Mercury Campus in Mountain View, Calif., which replaces the Sunnyvale office, will host research and development, customer support and professional services, among other activities. The campus will house more than 800 of its 2,300 employees . . . **Nokia Venture Partners** has led a US$10 million round of funding for **Nevis Networks Inc.**, a start-up creating enterprise security software. Earlier, Nevis raised a $10 million series A in April 2003 from **New Path Ventures,** a firm founded and managed by chip industry pioneers Vinod Dham and Tushar Dave. Nevis is headquartered in Santa Clara with an R&D center in Pune, India.

EARNINGS: Mercury Interactive Corp. reported first-quarter 2004 revenue of US$156.8 million, an increase over the $110.4 million reported in the same quarter a year ago. Net GAAP income for the quarter was $18.9 million, or 19 cents per share, compared with $18.1 million, or 20 cents per share, for the first quarter of 2003 . . . Web services infrastructure company **WebMethods Inc.** reported a third consecutive quarter of revenue growth with earnings of US$55.8 million for the fiscal fourth quarter of 2004 ended March 31 and a GAAP net loss of $5.6 million. Those numbers compare with earnings of $49.1 million and net income of $157,000 for the same period last year. For the fiscal year ended, total revenue was $194.5 million, down slightly from $196.8 million in fiscal year 2003. On a GAAP basis, WebMethods posted a net loss for the year of $27.9 million, compared with a loss of $8.6 million a year earlier. The company anticipates earnings in the range of $51 million to $56 million for the quarter ending June 30. ▮

CALENDAR OF EVENTS

Enterprise Architect Summit June 6-8
Rancho Mirage, Calif.
FAWCETTE TECHNICAL PUBLICATIONS INC.
www.ftponline.com/conferences/eas

.NET Advisor Live June 6-10
Las Vegas
ADVISOR MEDIA INC.
advisorevents.com/CMN0406p.nsf

USENIX Annual Technical Conference June 27-July 2
Boston
ADVANCED COMPUTING SYSTEMS ASSOCIATION
www.usenix.org/events/usenix04

JavaOne June 28-July 1
San Francisco
SUN MICROSYSTEMS INC.
java.sun.com/javaone

Worldwide Developers Conference June 28-July 2
San Francisco
APPLE COMPUTER INC.
developer.apple.com/wwdc

Macworld Conference & Expo July 12-15
Boston
IDG WORLD EXPO CORP.
www.macworldexpo.com

Rational User Conference July 18-22
Grapevine, Texas
IBM CORP.
www306.ibm.com/software/rational/events/ruc2004

Black Hat USA 2004 July 24-29
Las Vegas
BLACK HAT INC.
www.blackhat.com

VSLive New York July 26-29
New York
FAWCETTE TECHNICAL PUBLICATIONS INC.
www.ftponline.com/conferences/vslive/2004/ny

Open Source Convention July 26-30
Portland, Ore.
O'REILLY MEDIA INC.
conferences.oreillynet.com/os2004

SCO Forum Aug. 1-3
Las Vegas
THE SCO GROUP INC.
www.sco.com/2004forum

LinuxWorld Conference & Expo Aug. 2-5
San Francisco
IDG WORLD EXPO CORP.
www.linuxworldexpo.com

Embedded Software Development Conference Aug. 17-19
San Jose
BZ MEDIA LLC
www.esdevcon.com

For a more complete calendar of U.S. software development events, see www.bzmedia.com/calendar.

Information is subject to change. Send news about upcoming events to events@bzmedia.com.

Software Development Times (ISSN #1528-1965, USPS #001-9625) is published 24 times a year by BZ Media LLC, 2 East Main Street, Oyster Bay, NY 11771. Periodicals postage paid at Oyster Bay, NY and additional offices. POSTMASTER: Send address changes to SD Times, 2 East Main Street, Oyster Bay, NY 11771. SD Times is a registered trademark of BZ Media LLC.

The Fastest and Easiest Way to Deliver Feature-Rich .NET Framework Solutions to Your Customers

Developer Express technologies help you build your best, reduce the amount of code you write, increase your productivity, and create stunning applications for Windows® and the Web in the shortest possible time...

To learn more about our tools and how they can significantly impact your bottom-line visit us online at www.devexpress.com

Productivity Tools

CodeRush is a powerful editor add-in for Visual Studio® .NET. Create more code with fewer keystrokes, see complex software with clarity, and design forms with ease. Say goodbye to drudgery and get ready to become the programming superhero that you always knew you could be.

Reporting

A comprehensive reporting platform for Windows® and the Web, XtraReports is fully integrated into the Visual Studio® .NET IDE and sets the standard for ease-of-use and flexibility. With XtraReports, you never have to cringe at the thought of having to design a report again!

Visual Components

To build stunning and flexible applications, you need feature complete components... Ones that work as expected, each and every time. Our complete range of visual components will help you emulate today's most popular UIs without hassles or aggravation. Like all of our tools, our components were written in Visual C#™ and fully optimized for the .NET Framework and all .NET languages.

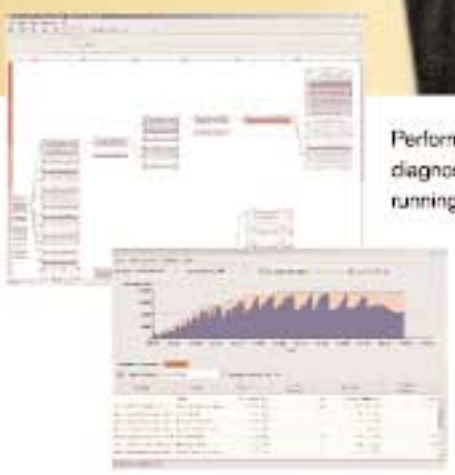
Application Development Framework

XPO represents a powerful bridge between the true object world and relational databases. It gives developers the freedom to build true business objects without having to deal with the tedious complexities of mapping them onto individual database tables.

Developer EXPRESS

Microsoft, Visual Studio.NET, Windows, and Visual C# are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

(888) Go-DevEx
(702) 262-0609
www.devexpress.com



PerformaSure – a system-wide performance diagnostic tool for multi-tiered J2EE applications running in test or production environments.

JProbe – a performance tuning toolkit for Java developers.

Join The Thousands of Companies Improving Java Application Performance with Quest Software.

Whether it's a memory leak or other performance issues, Quest Software's award-winning Java products — including JProbe® and PerformaSure™ — help you spend less time trouble-shooting and more time on the things that matter. Quest's Java tools will identify and diagnose a problem all the way down to the line of code, so you no longer have to waste time pointing fingers or guessing where the problem lies. Maximize your team's productivity with Quest Software by downloading a free eval today from **http://www.quest.com/sdtimes**.

QUEST SOFTWARE®

© 2004 Quest Software Inc., Irvine, CA 92618 Tel: 949.754.8000 Fax: 949.754.8999